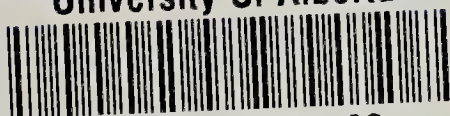


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THE
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Vol. XX, No. 2

SASKATOON, SASK.

JUNE, 1962



Fluted-stem Helvella

Photo by Doug Gilroy

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With a Naturalist on Southampton Island

by R. W. Fyfe, Coral Harbour, N.W.T.



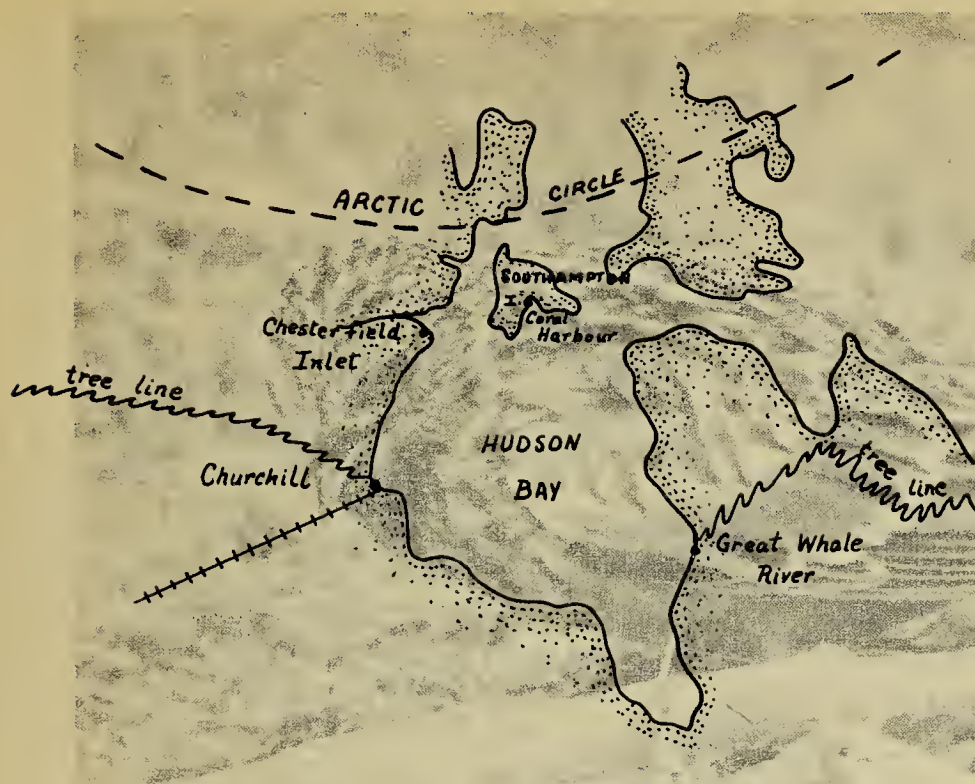
Walrus off Southampton Island.

What is it like to live on Southampton Island? Can anything be worth seeing on those barrens? Do you really like it up there? These are some of the questions most frequently asked when we are in the south or in letters from our friends in the south. I think it is fair to say that most of those inquiring have not given the question much thought, or if they have, they consider the Arctic winters too forbidding to imagine themselves living there. Actually, the two winters we have spent in the north have been the most beautiful winters we have ever known.

Because I have an active interest in natural history, I should like to tell something of the flora and fauna of Southampton Island so that readers may be able to appreciate in part what the Arctic holds for the naturalist.

For many years this island has been well known to naturalists, primarily owing to the relative abundance of Arctic species of birds and mammals to be found here and in the adjacent waters. Of the 72 species of birds considered to be Arctic species 66 are known to occur on the island and no less than 46 are

known to nest here. Most widely publicized are the extensive colonies of Snow and Blue Geese (roughly 10,000 birds nesting in each colony). These annually attract biologists to their breeding grounds to study the factors affecting the populations of these birds. Familiar winter birds in the south such as the Snow Bunting, Snowy Owl and Lapland Longspur are among the commonest nesting birds here. Indeed the Snow Bunting is our first spring bird, arriving about the first of April. In the settlement, the buntings remind one of the pugnacious House Sparrows in the south, as they are continuously around the buildings, nesting in any vacant crack and constantly quarrelling amongst themselves. Other common nesting birds include Whistling Swan, Arctic Loon, Sandhill Crane, Arctic Tern and all three species of the graceful marauding jaegers. The most abundant birds on the island are the shorebirds. Fourteen species breed and are unbelievably plentiful in most areas. These include three species of plover, Ruddy Turnstones and several species of sandpipers, these latter being rather difficult to identify. The most impressive colony is that of roughly 20,000 curlews on



nearby Coates Island. This is something which has to be seen to be appreciated.

Although the mammal population is often very high owing to cyclic peaks in the lemming, fox and rabbit populations the number of species is relatively few. The island is best known for the abundance of Polar Bear and Arctic Fox while the adjacent waters yield very good harvests of Walrus and Ringed Seal. In ad-

dition other species on the island include Red Fox and a weasel, with White Whale, Narwhale, Harbour Seal, Bearded Seal and Harp Seal also found in the bays. There are no longer any Caribou on this island although Coates Island has a fairly large herd which is doing well. Most of the animals remain at some distance from the settlement although it is often possible to see seal and whales from our homes as they are only a few yards off shore. Also, in the winter the odd fox may enter the village and this year we had a Polar Bear in the village early in February.

The flora is typical of most Arctic islands and is quite impressive to anyone coming into the north for the first time. One is immediately impressed by the abundance of such species of cotton grass, white-flowered stellaria, and the daisy-like Matricaria. Any of these may literally carpet a given area during the brief growing season and some of the plants give a very good show of colour when in bloom.



Melandrium sp., one of the northern lychnis.

To an outsider like myself this is all a world unto itself and at present I find myself not wanting to go south even for a few weeks' holiday, as there is still so much to see and learn about these so called "barren lands."

The following checklist has been made since my arrival in Coral Harbour on July 14, 1961, through to March 20, 1962:

Birds: Arctic Loon, Red-throated Loon, Whistling Swan, Canada Goose, Snow Goose, Blue Goose, Pintail, Oldsquaw, Common Eider, King Eider, Red-breasted Merganser, Rough-legged Hawk, Gyrfalcon,



Immature Lapland Longspur.



Immature Snow Bunting.



Polar Bear cub.

Peregrine Falcon, Willow Ptarmigan, Sandhill Crane, Ringed Plover, American Golden Plover, Black-bellied Plover, Ruddy Turnstone, Purple Sandpiper, Baird's Sandpiper, Dunlin, Semipalmated Sandpiper, Red Phalarope, Pomarine Jaeger, Parasitic Jaeger, Long-tailed Jaeger, Glaucous Gull, Herring Gull, Sabine's Gull, Arctic Tern, Thick-billed Murre, Black Guillemot, Snowy Owl, Common Raven, Common Redpoll, Horned Lark, Water Pipit, Lapland Longspur, Snow Bunting.

Mammals: Lemming, Arctic Fox, Arctic Hare, Polar Bear, a weasel, Caribou, Walrus, White Whale, Ringed Seal, Harp Seal, Bearded Seal, Harbour Seal.

Random Bird Notes From Mexico and the Southwest

by **R. D. Symons**, Regina

Last winter I had the opportunity to follow some of our Saskatchewan birds south of the border on a trip that my wife and I took to Mexico. We left Regina on January 5 and travelled to Chihuahua, Mexico, by way of Lethbridge, and down the east side of the Continental Divide through Great Falls, Cheyenne, Denver, Santa Fe and El Paso.

Through Montana and Wyoming as far as Santa Fe, New Mexico, we encountered stormy weather and had little opportunity to see any birds except Harlequin Ducks swimming happily about in the rushing waters on the Wind River canyon. At Chihuahua the weather was better, and for the six weeks we stayed there the sun shone continually. However, early January temperatures had been the coldest since the 1880's, we were told, and almost all of the big palm trees were frozen so severely it was doubted they would survive.

We found that the city parks were good places to see birds, especially Bolivar Park which was right across from the house where we lived en pension. Flocks of grackles roosted in the big dry palm trees and made a lot of noise. The park is well lit and the activity seems to go on all

night. These birds imitate the policeman's whistles in a most amusing way.

It is very difficult to get information about birds from Mexicans. They call anything with feathers "pajaritas"—little birds. The vaqueros know the Road Runner as "El paisano"—the Countryman. They know cranes, ravens and vultures, but not much else.

The state of Chihuahua is given over to ranching, and we were invited to stay with an American rancher at Rancho El Eden, 40 miles west of Chihuahua. Around the large springs here are clumps of very old alamos (cottonwoods). They make an oasis in the dry mesquite-dotted foothills and give the ranch its name. To the west the Sierra Madre towers stark and jagged and red. Side oats grama is the prevailing grass, and it was cured to bright Naples yellow. Shrikes are common here and are a regular feature of the landscape as they perch on the top of a prickly mesquite. Each bird sticks to its own territory, which would seem to be about seven or eight acres around its larder bush.

At Quintas Carolinas a group of scavenging Black Vultures looked for

Peregrine Falcon, Willow Ptarmigan, Sandhill Crane, Ringed Plover, American Golden Plover, Black-bellied Plover, Ruddy Turnstone, Purple Sandpiper, Baird's Sandpiper, Dunlin, Semipalmated Sandpiper, Red Phalarope, Pomarine Jaeger, Parasitic Jaeger, Long-tailed Jaeger, Glaucous Gull, Herring Gull, Ring-billed Gull, Arctic Tern, Thick-billed Murre, Black Guillemot, Snowy Owl, Common Raven, Common Redpoll, Horned Lark, Water Pout, Lapland Longspur, Snow Bunting.

Mammals: Lemming, Arctic Fox, Arctic Hare, Polar Bear, a weasel, Caribou, Walrus, White Whale, Ringed Seal, Harp Seal, Bearded Seal, Harbour Seal.

all the world like barnyard turkeys as they hunched on the dry tops of the cottonwoods.

The state of Chihuahua was over to ranching and we were invited to Anahuac Dam yielded some coots, and we saw Gadwalls shot by the caretaker in spite of the large notice saying that the possession of firearms is strictly forbidden! We also saw here a flock of Canada Geese which we were told are the only ones to winter in the state.

By March 1 the trees in the parks were green and quite a lot of warblers and sparrows were moving, among them the familiar Myrtle and Black-and-white Warblers, Vesper Sparrows, Tree Sparrows and juncos. We left to return to New Mexico. In the Deming area and south to Columbus the desert is very barren except for some small irrigated fields near the Florida Mountains. There is little or no grass and the sand is

held in place only by the scrubby spiny growth of mesquite, ocotillo, cholla and tumbleweed. With the new weather and recent moisture the desert flowers—principally poppies—were beginning to germinate and promised bright colour for later. In the scrub we found a real gathering of the sparrow clans, which we had seen earlier in Mexico, beginning their northward journey.

At Las Enicas the trees were now greening. At Columbus we saw the bullet holes and crumbled adobes which bear witness to the towns seized by Pancho Villa in his border raids of 1916; and at Las Lomas on the Mexican side we saw our first Cactus Wren. Here the Mourning Doves cooed all day.

We went from Deming to Alamogordo where we visited the famous white sands, which are pure gypsum. It looked like a dead world, backed by the steely-grey San Andres Mountains, until a happy group of Horned Larks alighted close to us. From Alamogordo we followed the steep winding road which crosses the Sacramento Mountains and reaches Artesia to the east. On the hump at Clouderoft we stopped for some coffee at a wayside cafe. We were right back into winter—the winter we know in Canada. The snow was still quite deep and the close-ranked pines looked sombre and very northern, in spite of which the Pinon Jays seemed happy.

Down again to Pinon and the Penasco to the big sheep ranching country, and a very lovely country dotted with pinon trees and cholla cactus. Besides many Pinon Jays we saw a lot of juncos. At one ranch we saw seven Golden Eagles hanging on the corral. These had been shot by the rancher from his aeroplane. He told us that the toll of lambs taken by these birds is very great. Apparently, contrary to old Scottish stories, these birds do not carry the lambs away, but eat them on the spot, only taking off pieces to their eyrie when they have young. I saw a Bald Eagle here, but did not tell my rancher friend!

Our return journey coincided with the northward migration of many species, and we greeted familiar juncos and sparrows at Santa Fe.

Taos, Denver and up across the Lar-
amie plains and the Judith Basin.

Back on our own plains the first
week in April we saw lots of Whist-
ling Swans and ducks, mostly in the
Bassano area. The swans were mostly
in the small ponds because the larger
bodies of water were still covered
with ice. At Maple Creek Junction
the Horned Larks were feeding by
the road, and the first bird to greet
us in Regina was a crow.

Identification of small mammalian
remains is not difficult when skulls
and teeth are present, provided the
worker has acquired a knowledge of
skull and teeth characteristics in the
different native species of small
mammals. To facilitate making the
identifications, we first prepared a
key to the skulls and teeth of small
mammals in Saskatchewan. Specific
identification of bird remains is more
difficult, but usually possible. Fleas,
lice and mites were useful aids in

When an owl captures a small bird
immediately. External parasites on the
bird are usually found on the head and
neck. In the laboratory, the owl is
killed and the bird is examined. The
bird is then placed in a container with
ice and mites were used as a small
bird. Identification of bird remains is more
difficult, but usually possible. Fleas,
lice and mites were useful aids in

Bald Eagle Harries Nesting Canada Geese

by F. W. Lahrman, Saskatchewan Museum of Natural History

On April 10, 1962, I saw an eagle
soaring over the marshes of the Re-
gina Waterfowl Park and coming to
land on one of the mounds of the
dugout. There I could identify it as
an immature Bald Eagle. Two days
later, on April 12, I again noted the
eagle at the marsh. When I first saw
it it was soaring high in the sky; then
it began to circle down toward the
nest of a Canada Goose on a muskrat
house in the marsh. I wondered how
the pair of geese would react, so I
turned to look at them. I could see
that the geese were nervous—the
goose on the nest had her neck
stretched out flat, and the gander on
a dyke approximately 100 yards away
was also crouching flat with out-
stretched neck. In the laboratory, the
As the eagle drew closer, the goose
slipped off the nest, calling to the
gander. The eagle swooped at the
goose which dived under water and
then it hovered over the water wait-



Over the 1961-62 season, 86
to June 1, 1961, the carcasses of 86
Great Horned Owls were examined
in the Veterinary Science Department
at the University of Saskatchewan.
Most of the specimens secured were
collected by Mr. Keith Thue, Man-
ager, Provincial Game Farm, Beaver
Creek, Saskatchewan. In the winters
of 1958-59 and 1959-60 the birds
were numerous in the vicinity of the
Game Farm, apparently attracted to
the area by the game farm bird stock.
In the winter of 1960-61 the owls
were scarce and only 10 specimens
were secured and only 10 specimens
The owl specimens received by the
Veterinary Laboratory were exam-
ined for any and all scientific data
that they yielded. However, only
the data reflecting the eating habits
of the birds will be reported here.

Nesting Canada Geese

The owl specimens received by the
Veterinary Laboratory were exam-
ined for any and all scientific data
that they yielded. However, only
the data reflecting the eating habits
of the birds will be reported here.

ing for the goose to reappear. The
alerted gander came flying swiftly to
her rescue. It flew directly at the
eagle, and the surprised eagle
turned aside to escape attack. Appar-
ently the gander struck at the eagle
with its wing, but I couldn't see
whether it actually hit the eagle.
Then it flew by, circled and at-
tempted a second attack, but the
eagle escaped by climbing swiftly in-
to the air. After flying some distance
the eagle came down to land on the
ice. It sat there for a few minutes,
and then flew up again to go to an-
other nest. Here, too, the goose slip-
ped off the nest, and she and the
gander standing beside the nest both
stood with outstretched wings, honk-
ing loudly. The eagle flew off, soared
into the air, and away. What was pre-
sumably the same bird was noted
briefly the following day soaring over
the marsh, but it was not seen again
molesting the geese.

Stomach Contents of Great Horned Owl

by Robert Connell, University of Sask., Saskatoon*

Measured against the code of the sportsman and farmer, the sins of the Great Horned Owl are many. Over the years, man has been much against this bird, but still, throughout all months of the year, it remains the commonest and most numerous of all the large raptorial birds in these parts. The ability to survive is due perhaps to its relatively large brain; for the Great Horned Owl ranks with the birds — parrots, woodpeckers, magpies, crows, ravens, and other owls—that have relatively large, complex brains (Portmann and Stingelin, 1961).

Over the period from July 1, 1958, to June 1, 1961, the carcasses of 86 Great Horned Owls were examined in the Veterinary Science Department at the University of Saskatchewan. Most of the specimens secured were collected by Mr. Keith Thue, Manager, Provincial Game Farm, Beaver Creek, Saskatchewan. In the winters of 1958-59 and 1959-60 the birds were numerous in the vicinity of the Game Farm, apparently attracted to the area by the game farm bird stock. In the winter of 1960-61 the owls were scarcer and only 10 specimens were taken.

The owl specimens received by the Veterinary Laboratory were examined for any and all scientific data that they might yield. However, only the data indicating the eating habits of the birds will be reported here.

Methods Employed in Examining the Stomach Contents of Owls

The stomach contents on removal were first examined for the presence of feathers. If feathers were present, a search was made for the bill, feet, and other identifying structures of the bird eaten. If found, feathers and bill were transferred to a dish of water, cleaned, and their structure and color noted. Often feathers served as the only means of identifying bird remains in owl stomachs, and a good knowledge of comparative feather characteristics had first to be acquired in order to identify bird meals.

After the preliminary examination mentioned, the stomach contents were

soaked in 20 per cent potassium hydroxide solution for a few hours to digest and dissolve hair, feathers, and soft tissues, leaving undissolved any bones present, along with insects, mites, seeds, and such matter. After digestion the liquefied stomach contents were strained through a very fine (100 mesh) copper screen. The residue on the screen was gently washed in a stream of tap water. When clean, the residue on the screen was washed into a flat-bottomed, clear glass dish. After settling, excess water was poured off, and the residue transferred to petri dishes for examination under the dissecting microscope.

Identification of small mammalian remains is not difficult when skulls and teeth are present, provided the worker has acquired a knowledge of skull and teeth characteristics in the different native species of small mammals. To facilitate making the identifications, we first prepared a key to the skulls and teeth of small mammals in Saskatchewan. Specific identification of bird remains is more difficult, but usually possible. Fleas, lice and mites were useful aids in identifying what had been eaten. When an owl captures a small bird or mammal, it gulps it down immediately. External parasites on the prey are swallowed with it and can be found in the stomach contents. When the prey is larger, a rabbit for example, or a crow or chicken, the owl lays its prey open after a technique very similar to that which a veterinarian uses in conducting an autopsy on a chicken or small mammal. Consequently with larger prey, external parasites often crawl or hop off the prey on to the owl and are to be found on the bird's body.

For the reason just mentioned, each owl specimen secured in the field was immediately placed in a paper bag. The top of the bag was tied with a string or wire to keep external parasites from leaving the specimen. In the laboratory, the bags were opened. Before a bird specimen was

* Director, Veterinary Science Department, College of Agriculture.

opened to remove the stomach, it was first taken out of the bag and placed in a container for about 10 minutes with a ball of cheesecloth saturated with ether. This anaesthetized the external parasites, which were then brushed out of the feathers on to a piece of paper and saved for identification. The bags were torn open and any parasites found crawling on the paper inside were collected and saved. I might add that external parasites stay alive for at least a week on carcasses in paper bags placed in a refrigerator.

Results

Fifty of the 86 owls examined yielded no information whatsoever to indicate what may have made up meals recently eaten. Data on each of the remaining 36 owls is shown in the table below.

Prey eaten by each of 36 Great Horned Owls as indicated by examination of stomach contents and in a few cases, ectoparasites.

Sex	Stomach Contents
Male	Two red-backed voles.
Female	One deer mouse, one red-backed vole.
Male	Stomach contents not in themselves identifiable. Seven mouse fleas were identified, indicating that the last meal had been on mice.
Male	Pheasant.
Male	One red-backed vole.
Male	Gray Partridge.
Male	Six deer mice.
Male	One deer mouse.
Male	Pheasant
Male	One deer mouse.
Male	Jack rabbit.
Female	Two pocket mice, one deer mouse, domestic chicken.
Male	Mass of dandelion seeds.
Male	Stomach empty, but numerous fleas (<i>Faxella ignota albertensis</i>) on bird indicated that it had recently eaten a pocket gopher.
Female	One deer mouse.
Female	Two deer mice, one pygmy shrew.
Male	One deer mouse.
Female	One house mouse, one deer mouse, one red-backed vole.
Male	One pocket gopher.
Female	Four deer mice.
Female	One deer mouse.
Male	Crow.
Male	One deer mouse.
Female	Jack rabbit. A considerable number of crow lice were found on this owl, suggesting that it had recently eaten a crow. However, this surmise may be in error. Nesting owls regularly use old crow nests and Holland (1954) suggests that the crow flea hibernates over-winter in abandoned crow nests.
Female	Two red-backed voles, one Hairy Woodpecker.
Female	Three pygmy shrews.
Female	Least chipmunk.
Female	Stomach contents not in themselves identifiable, but red squirrel fleas were found, indicating that a red squirrel had been eaten.
Male	Two field mice.
Male	Crow.
Female	One pocket mouse.
Male	Two deer mice.
Female	Three deer mice.
Female	One deer mouse.
Male	One pocket gopher, three deer mice.
Male	One field mouse (meadow vole).

Discussion and Conclusion

In discussing the economic status of the Great Horned Owl, Taverner (1934) recorded that of 110 stomachs examined, 31 contained poultry or game birds, 8 other birds, 13 mice, 65 other mammals, a scorpion, one fish, and 10 insects. Taverner considered this evidence against the owl. On the other hand, Brandt (1951) recorded that the commonest food constituents in the nests of this bird were cottontail rabbits, other small mammals, and occasionally birds. It would appear that the economic status of the Great Horned Owl, as Taverner says, "depends upon where it lives." An editorial note in the **Blue Jay** (18:16) mentions that Great Horned Owls in Montana were found to feed magpies to their young, and consequently were beneficial in controlling magpies.

Of the 36 owls that yielded data in this study, only one had eaten poultry, three had taken game birds,

and one a Hairy Woodpecker. Thirty-one of the birds had taken no food that could in any way be regarded as economically useful to man. Of the 36 total, 29 had foraged successfully after mice, pocket gophers and crows, creatures that man regards as economically harmful. The only conclusion that I can draw from the data presented is that the Great Horned Owl, economically, is decidedly more beneficial than harmful.

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Common Tern Recovery From Cook Islands

by C. Stuart Houston, Saskatoon

Although the Common Tern (*Sterna hirundo*) is known to winter at New Guinea and the Solomon Islands in the southwest Pacific these birds are presumed to have migrated from northeastern Asia (Kamchatka to Sakhalin Islands). There were apparently no specimens or sight records from the central Pacific until this past year when two banding recoveries were obtained.

On November 26, 1960, a bird wearing band 523-60398 was found in the lagoon near the beach at Ureia, Aitutaki Island, in the Cook Islands group administered by New Zealand. The band was found by Roi Marama and shown to Mr. P. Pamatatau of the Resident Agent's Office of the Cook Islands Administration, who reported it to the U.S. Fish and Wildlife Service, Washington, D.C. Unfortunately the band was not submitted and was lost by Mr. Marama in the several months that elapsed before my letter requesting the band could reach him. However, Mr. Pamatatau assured me that "It is proved correct by me and other official persons that the in-

scription on the band is correct unless one figure is wrong which should be 525-60398 instead of 523-60398." (Note: 525 indicates a size 5 band and 523 a size 3). I then sent Mr. Pamatatau sample bands of size 3 and size 5 to enquire which size the band was—he returned these with the inscription "this is it" opposite the size 3 band and "this is NOT" beside the size 5 band. Since there is a marked difference in size between a size 3 and size 5 band, there seems little doubt that it was the former. 523-60398, a nestling Common Tern, was banded by the writer at 51°21'N., 105°15'W., Last Mountain Lake, eight miles east of Imperial, Sask., on July 8, 1956.

The Cook Islands are approximately 1800 miles northeast of New Zealand and between 2800 and 3000 miles south of the Hawaiian islands. The distance from Saskatchewan to the Cook Island is about 6000 miles. This is the farthest distance travelled by any of the 1134 recoveries received to date from over 20,000 birds banded by the writer. Of 350 Com-



Photo by F. W. Lahrman

Common Tern.

mon Terns banded prior to 1961, the only previous recovery was from a tern banded at Redberry Lake in 1958 and caught in a fish net in the state of Colima on the west coast of Mexico, six and one-half months later.

The above record was soon followed by the second Common Tern record from the central Pacific—also a banded bird, banded by another medical doctor! A nestling Common Tern, 543-87827, banded on June 27, 1960, by Dr. F. E. Ludwig at Grassy Island, Lake Huron, near Alpena, Michigan, was shot by Raymond J. Kramer, wildlife biologist for the state of Hawaii, on April 25, 1961. The local Audubon Club at Honolulu had been observing what they thought was a Black-naped Tern at Paiko Lagoon at the extreme southerly tip of the island of Oahu. With the permission of the President of the Audubon Club and the Director of the Department of Conservation of the State of Hawaii, Mr. Kramer went there to collect the supposed Asiatic stray. Imagine the surprise when close examination proved it to be a banded Common Tern—a new species for the state. This Common Tern is now mounted and on display,

still wearing its band, in the Bishop Museum in Honolulu.

Dr. Ludwig writes that he has had several recoveries from Michigan birds from the western shore of South America, particularly from Ecuador, Columbia and Peru. He feels that his bird probably migrated to that area, but instead of migrating back to Michigan in the spring of 1961, made a left turn (not a common turn!) and ended up in Hawaii.

Even though wildlife statisticians may prefer large and statistically significant numbers of recoveries and decry random banding that fails to produce such numbers, yet this is another example of individual recoveries that can be of considerable ornithological interest.

EDITOR'S NOTE: Another interesting example of long-range migration comes from a U.S. Fish and Wildlife Service release (April 6, 1962) telling of far-travelling birds crossing the Iron Curtain. Since 1939 when a Russian-banded bird was recovered in California, over 100 American-banded birds have been recovered in Russia and over 75 Russian-banded birds have been taken in Alaska and other states. One of these was a crane, the Common Crane of Europe and Asia, which visited the Bitter Lake National Wildlife Refuge near Roswell, New Mexico, on March 10, 1961, the fifth record for this species in North America. Two and a half months later, a Lesser Sandhill Crane banded at the Bitter Lake Refuge, January 29, 1960, was reported on a "state" visit at Krasneno, Russia, about 5500 air miles from Bitter Lake.

Birds of the Kazan Lake Region, Saskatchewan

by **Thomas E. Randall**, Edmonton

FOREWORD

In April of 1942, Ducks Unlimited (Canada) engaged Thomas E. Randall to carry on a study of waterfowl and related wildlife. Mr. Randall accordingly worked at Kazan Lake for four months, from June to October. His final report, submitted on October 9, 1942, indicates that he made good use of his time: a total of 285 ducks were banded, 557 duck nests were discovered, and notes were made on the occurrence of 153 species of birds.

Mr. Randall's work on the birds of Kazan Lake was first called to my attention by Herb Moulding, Ducks Unlimited, Regina, in response to a query regarding bird work in northern Saskatchewan. Through the kindness of Mr. Moulding and of W. G. Leitch, Chief Biologist, Ducks Unlimited, Winnipeg, I was given access to the D.U. file and was able to examine Randall's list. I later learned that Dr. Stuart Houston and W. Earl Godfrey were aware of the list, but no information from it had been published.

Desiring further information on certain species briefly mentioned in the D.U. list I decided to contact Randall. Thanks to Professor W. Ray Salt, co-author of **Birds of Alberta**, I was able to locate Randall at his present home in Edmonton, Alberta. Through correspondence with Randall it was learned that he was agreeable to publishing his bird list and further, that considerable additional records were available, the list as it appears in the D.U. files being a much abbreviated account, prepared mainly with waterfowl in mind and without all of the field data on hand. The present list is based upon Randall's original field notes and lists and was prepared by him with our encouragement during the winter of 1961-1962. Some information given in the D.U. report has been added where this seemed appropriate.

Earlier investigations were made at Kazan Lake for D.U. by other workers. Fred G. Bard was at Kazan Lake from March 27 to April 8, 1939, and recorded in those 12 days some

16 species. A report in the D.U. files: "An investigation of the Kazan Lake Area, Saskatchewan. March 27th to April 8th, 1939," by W. Lloyd Bunting and Fred G. Bard, D.U. files, dated April 12, 1939, lists eight species, and a letter by Bard to G. R. Fanset, Manitoba Manager, D.U. files, dated April 28, 1939, lists eight other species. These winter records of birds at Kazan Lake have been included in the present list, thus adding two new species—Willow Ptarmigan and Pine Grosbeak.

Randall's list supplies some valuable records for a little known region of the province. While no attempt has been made to correlate his observations with others for the general area the interested reader may wish to consult the following works which bear on the area:

Buchanan, A. 1920. **Wild life in Canada**. McClelland, Goodchild and Stewart Ltd., Toronto, 264 pp. (Records for Lac Ile-à-la-Crosse, etc.).

Godfrey, W. E. 1950. **Birds of the Cypress Hills and Flotten Lake regions, Saskatchewan**. Natl. Mus. Canada, Bull. 120. 96 pp. (Flotten Lake is 60 miles south of Kazan Lake).

Macoun, J. and J. M. Macoun. 1909 **Catalogue of Canadian birds**. Can. Dept. Mines, Geol. Surv. Branch, Ottawa. 761 pp. (Several records for Lac la Loche, i.e., Methye Lake and Portage region).

One cannot resist mentioning certain records on Randall's list which are outstanding. For example, his records include three species of jaegers and his account of the Long-tailed Jaeger is the first record for the province, establishing this species at least as hypothetical. The Mew Gull record is the farthest south for the province, although it has been recorded in southern Alberta. We usually think of Say's Phoebes and Rock Wrens as birds of southwestern Saskatchewan, but Randall's records show that they may wander far out

of their normal range. The Bohemian Waxwing account is extremely interesting as this species is not otherwise known to nest in Saskatchewan except for a probable record at Fond du Lac on Lake Athabasca made by T. Shortt in 1945. Randall's Blackpoll Warbler nest record represents the earliest record for the province, Shortt having found the only other known nest at Fond du Lac in 1945 (**Blue Jay**, 18:125). Randall's nest-finding ability should also be noted. Of the 191 species listed, nests were found for 104. An additional 28 were reported as probably nesting.

The unusual assemblage of birds may be attributed to the geographic situation. Kazan Lake lies within a special forest region designated the "Upper Churchill Section" of the Boreal Forest. "This Section in west-central Saskatchewan occupies an area of low relief, mostly below the 1,500-foot contour, bounded by the Precambrian Shield on the north and the Saskatchewan Uplands on the south. Extensive stands of jack pine (*Pinus banksiana*) occupy the sand plains and low ridges, while intervening poorly drained areas are forested with black spruce (*Picea mariana*) and tamarack (*Larix laricina*). White spruce (*Picea glauca*) and aspen (*Populus tremuloides*) are of less importance here than on the upland tills of the Mixedwood Section to the south, though both species, and also balsam poplar (*Populus balsamifera*), are well represented where drainage conditions are favourable. Balsam fir (*Abies balsamea*) and white birch (*Betula*

papyrifera) are present but not abundant. Large areas of swamp, bog and muskeg are common. The area was occupied by Lake Hyper-Churchill at an early stage in the retreat of the last continental glacier, hence the flat or undulating surface. The sandy nature of the lacustrine and till deposits has possibly been inherited, in part at least, from a thin basal sandstone on the Precambrian basement at the north side of the Section, even though the main bedrock is dolomite or limestone of Devonian age. Soil profiles under pine forest on the sandy tills and lacustrine plains are strongly leached, the whiteness of the eluviated horizon showing up strikingly wherever the surface humus is removed as along bush trails. On heavier materials, for example on some of the modified tills or banded lacustrine deposits, grey-wooded profiles have developed in association with white spruce and poplar forests." (Rowe, J. S. 1959. **Forest regions of Canada**. Bull. 123, Forestry Branch, Dept. N. Affairs and Nat. Resources, Ottawa. 71 pp.

Readers may be interested to know that Mr. Randall is now writing a series of essays on several species, including Sora, Greater Yellowlegs and Bonaparte's Gull, for Dr. A. H. Bannerman of Dumfries, Scotland, who is writing the 12-volume work, **Birds of the British Isles**. We look forward to seeing these in print and hope to have further notes and articles from Mr. Randall on his observations of western Canadian birds.—Robert W. Nero, University of Saskatchewan, Regina Campus, Regina.

AUTOBIOGRAPHY

I was born June 21, 1886, at Rodmersham Green, Kent, England. My first ten years were spent around the orchards, fields and woods. Early in life I got interested in the beauties of nature, especially the birds, and I soon acquired the ability to recognize the many species I met with. While quite young I saw such rarities as four Waxwings in an apple tree and a pair of Golden Orioles in a plantation of larches. Just before my eleventh birthday my parents moved to the district bordering the Thames River estuary and here I soon became acquainted with the bird life of the

extensive marshes along the estuary. I soon came to know the gamekeepers and marsh shepherds and was allowed to ramble through woods, fields and marsh with perfect freedom. I observed many comparatively rare birds, found large numbers of nests and acquired a thorough knowledge of the bird life of the district. I recorded such British rarities as Bittern, Rough-legged Buzzard, Lapland Bunting, Snow Bunting and Shore Lark. I found nests not previously recorded from the district. Nests of Common Snipe, Water-rail, Shoveller and Pochard were all firsts

for the North Kent marshes. But my most notable find was a small colony of the beautiful Bearded Tit in a reed bed. This was in 1907 and was the first nesting of this bird in Kent for nearly one hundred years. These birds were still there in 1912, when I came to Canada. But since that time there has been no report of the bird until last year, 1961, when the sight of a bird was reported from the reed bed where I last saw them fifty years ago. So I am the only living person to have seen Bearded Tits nesting in Kent.

Coming to Canada in July, 1912, I had scarcely got well settled when war broke out, and did not see more of Canada until September, 1919. Then I at once took up my old bird interests and soon became acquainted with the late Dr. William Rowan who greatly aided me in my continued study of western Canadian birds. After a few years spent in the Alberta prairies I got into the northern forests and muskegs and have since spent a great deal of time there.

It would take a long time to relate all my findings. A few of the highlights are as follows: in 1930, in the Athabasca district, I found 43 nests of the Gray (Canada) Jay. In 1940, at Beaverhills Lake, I found 27 Marbled Godwit's nests. I found the first Greater Yellowlegs' nest recorded for Alberta. In 1961 I discovered the sixty-eighth nest of this species. I possess the only record of Virginia Rail nesting in Alberta. While camping out with the late P. A. Taverner, at Herchmer, Manitoba, in 1936, in ten days I found 23 Harris' Sparrow nests. In 1942, before going to Ile-à-la-Crosse, I spent a month in the hills south of Mortlach, Saskatchewan, and among many nests found there I discovered 28 Willet's nests.

Now that I am getting to an age where it is advisable to take things a little easier, it gives me great satisfaction and pleasure to pass all these and other experiences through my mind. But I often wish I could do it all over again.

INTRODUCTION

I reached Ile-à-la-Crosse on May 28, 1942, my destination being Kazan Lake, which lies some 20 miles northwest of Ile-à-la-Crosse. As I had decided to camp at the northwest corner of the lake, the journey consisted of a 25-mile canoe trip to the north end of the Aubichon Arm of Lac Ile-à-la-Crosse, then a portage of seven miles over a bush trail to Kazan Lake. My camp was a forestry cabin situated on the shore of the lake where the Kazan River flows north to Peter Pond Lake.

Kazan Lake is about 10 miles from north to south and six and one-half from east to west. The shore is very irregular, especially on the east and south. A group of well-wooded islands lie near the north shore and another group near the south end. For the greater part the forest grows right to the water's edge, but in a few places small areas of rough grass and rushes occur and reed beds of varying size are quite plentiful. The north side of the lake is very shallow and the water is low, leaving an extensive foreshore of mud, thickly strewn with rocks.

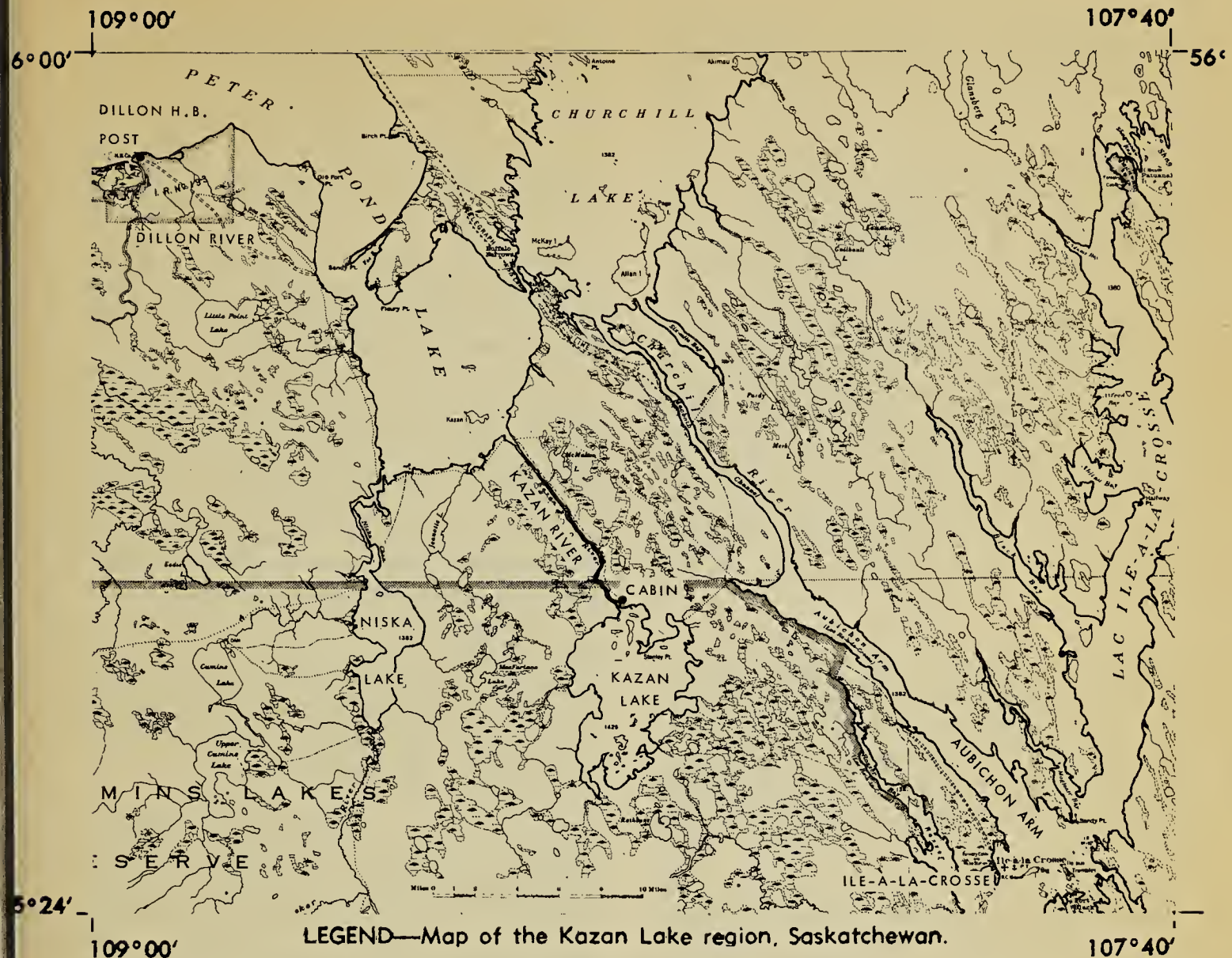
The surrounding country is flat but on the east side a low ridge lies between Lac Ile-à-la-Crosse and Kazan

Lake. Nine miles to the north lies the great Peter Pond Lake, the area between being mostly muskeg which has been devastated by fire in recent years, so that few large trees remain. Eight miles to the west lies the smaller Niska Lake, which is also connected with Peter Pond Lake by a fairly wide channel of deep water. Around Niska Lake I found some fairly extensive stands of white and black poplar and white spruce of large size.

The object of my visit to this area was to make a survey of the wildfowl population and to band ducks, but being a keen student of all bird life, I observed birds of all kinds, and the following list is the result of my observations.

A trip was taken in mid-June to Niska Lake and then up to the Hudson's Bay post of Dillon River on the west side of Peter Pond Lake. Apart from that trip, all of my time from June 3 to October 1 was spent at Kazan Lake. Unless otherwise indicated all records are for Kazan Lake.

The nomenclature used in the species account is that of the American Ornithologists' Union **Check-list of North American Birds** (5th ed., 1957).



Species Account

COMMON LOON. *Gavia immer*. Seen frequently on Kazan Lake and a nest with two eggs found June 4. At Niska Lake on June 20, I found a nest with two newly-hatched young still on the nest. Two pairs were seen on Niska Lake and several were noted on Peter Pond Lake.

ARCTIC LOON. *Gavia arctica*. Two birds were seen on Lac Ile-à-la-Crosse, June 1, about two miles north of Ile-à-la-Crosse. We came on them suddenly in a small bay. The grey heads showed very plain as they were only some 20 yards from the canoe. Both birds dived and passed under the canoe as they made their way out into the lake.

RED-THROATED LOON. *Gavia stellata*. Three were seen on Lac Ile-à-la-Crosse, June 1, and one on Kazan Lake, September 24.

RED-NECKED GREBE. *Podiceps grisegena*. Only moderately plentiful. Nesting wherever suitable patches of

reeds and tules grew along the lake shore. A nest with three eggs was found on June 3, one with four eggs, June 5, at Kazan Lake. Subsequently, several broods of young were seen.

HORNED GREBE. *Podiceps auritus*. Fairly numerous and nesting wherever suitable cover was available. A nest with five eggs was found on June 3, another with six eggs, June 6, at Kazan Lake.

EARED GREBE. *Podiceps caspicus*. Several small nesting colonies were located on both Kazan and Niska Lakes. Five nests at Kazan Lake, June 6, had from two to four eggs. At Niska Lake on June 20, several nests still held eggs, but the greater number had hatched.

WESTERN GREBE. *Aechmophorus occidentalis*. Not common. Three small nesting colonies on Kazan Lake and one on Niska Lake. At Kazan Lake, June 7, a nest held three eggs; at Niska Lake, June 21, a nest held four eggs (pipped).

PIED-BILLED GREBE: *Podilymbus podiceps*. Quite common. Eight nests found at Kazan Lake June 2 to June 10; each had from two to eight eggs.

WHITE PELICAN. *Pelecanus erythrorhynchos*. Parties of up to 30 birds often visited Kazan Lake. The last were seen on September 23.

DOUBLE-CRESTED CORMORANT. *Phalacrocorax auritus*. Seen occasionally on Kazan Lake. Found nesting on Peter Pond Lake. Several nests were found on a rocky islet on June 23. Some nests held one or two eggs, obviously fresh. The forest ranger told me that these islands were regularly raided by Indian fishermen, who kept the eggs for baiting fox traps in the winter.

GREAT BLUE HERON. *Ardea herodias*. Two were seen on Kazan Lake on September 7.

AMERICAN BITTERN. *Botaurus lentiginosus*. Scarce. A nest was found on June 9. The bird was seen only eight times.

WHISTLING SWAN. *Olor columbianus*. Probably a regular visitor in small numbers. A flock of seven birds was seen on September 30 on Kazan Lake.

CANADA GOOSE. *Branta canadensis*. Scarce breeding species. Two broods were seen on Kazan Lake on June 4; one brood on Niska Lake on June 17 and one on Peter Pond Lake, June 20. Small parties of from two to eight birds were seen passing over on several occasions.

WHITE-FRONTED GOOSE. *Anser albifrons*. Rare visitors. A flock of 14 passed over on September 21.

SNOW GOOSE. *Chen hyperborea*. A rather scarce but probably a regular visitor in spring and fall migrations. A flock of 22 was seen on Kazan Lake on September 26. Several large flocks were also seen passing high overhead (no dates available).

MALLARD. *Anas platyrhynchos*. Common. From June 5 to June 24 I found 19 nests. Eighteen other nests were found later. Fresh eggs were found up to June 28.

GADWALL. *Anas strepera*. Rather scarce. Eleven nests were found from

June 1 to June 16. First young were seen at Niska Lake on June 17.

PINTAIL. *Anas acuta*. Common. Only two nests were found, as practically all eggs had hatched out before my arrival at the lake. Numerous broods were seen.

GREEN-WINGED TEAL. *Anas carolinensis*. Fairly plentiful. This species and the American Widgeon (*Baldpate*) nest well back from water in fairly heavy brush, and the nests are not found as frequently as those of the ducks which nest on the islands or in the heavy grass near the edge of the lakes. Three nests were found—one with seven eggs, June 1, one with ten eggs, June 4, and another with nine eggs, June 5. Subsequently, several broods of young were seen.

BLUE-WINGED TEAL. *Anas discors*. Scarce. Nineteen nests were found. The least abundant of the breeding ducks. The first nest, with six eggs, was found on June 9; another, with eight eggs, on July 16.

AMERICAN WIDGEON. *Mareca americana*. Common. Four nests were found from June 1 to June 14. Many broods of young were seen. In all, 31 nests were found. This duck goes back from water farther than other species to nest. One nest was found in Labrador tea in a muskeg one and one-half miles from water.

SHOVELER. *Spatula clypeata*. Another scarce species. Four nests were found on June 3, June 4 and June 7. Several broods of young were seen.

REDHEAD. *Aythya americana*. Common. Eight nests were found, all in the beds of reeds, from June 2 to June 9. The greatest number of eggs in a nest, 22. Broods of young were plentiful. A total of 18 nests were found.

RING-NECKED DUCK. *Aythya collaris*. Scarce on Kazan Lake and no nests found. On Niska Lake seven males were seen together on June 17; females were probably incubating. On June 20 at a small pond near the mouth of Niska River I flushed two birds from nests, each with 11 eggs. Both nests were in tufts of grass overhanging the edge of the water.

CANVASBACK. *Aythya valisineria*. Another common species. Nine nests were found from June 2 to June 10; 15 nests in all. This species was not

nearly as plentiful as the Redhead. Several broods of young were seen. On Peter Pond Lake many fairly large flocks of males were seen on June 22.

LESSER SCAUP. *Aythya affinis*. Abundant on Kazan, Niska and Peter Pond Lakes. Probably exceeds in number all other species combined. Two hundred and forty-three nests were found. First nest, June 5; a nest with six eggs on August 4. Large rafts of scaup were seen on all the lakes.

COMMON GOLDENEYE: *Bucephala clangula*. This duck was plentiful on Kazan and Niska Lakes, in flock of up to 200, the majority of which were males. A half-dozen broods of young were seen on each of these lakes, but the only nest found was in a balsam poplar at Dillon River, on June 22; the female was seen to fly to the nest. The whole area between Kazan and Peter Pond Lakes had been burned over in recent years and consequently there were no stands of poplar and no woodpecker nest-holes to attract the Goldeneye.

BUFFLEHEAD. *Bucephala albeola*. Fairly common. The remarks on the nesting of the preceding species apply equally well to the Bufflehead. Only four nests were found, but several broods of young were seen. One nest, found on June 6, had six eggs.

OLDSQUAW. *Clangula hyemalis*. Rare. Four were seen on Kazan Lake, August 25. These birds were all males in the dark summer plumage. They flew up about 50 yards ahead of my canoe, flew straight away for several hundred yards then turned and came back, passing me at a distance of about 30 yards.

WHITE-WINGED SCOTER. *Melanitta deglandi*. Common, nesting on islands and also in the stands of young pine where the ground was criss-crossed with the fallen trunks of trees killed by fire. Seven nests were found from June 10 to June 27. Number of eggs, five to 11. Numerous broods were seen. A total number of 52 nests were found. This duck was found nesting in dense grass, bushes and nettles along the shore and well back on the pine ridges under wind-fallen trees and logs. Nests were found fully a mile from water.

SURF SCOTER. *Melanitta perspicillata*. A rare visitor. A single male

was seen with White-winged Scoters on Kazan Lake, July 17. A flock of six males was seen on Peter Pond Lake, June 22.

RUDDY DUCK. *Oxyura jamaicensis*. Common. Six nests were found from June 8 to June 25.

HOODED MERGANSER. *Lophodytes cucullatus*. Seven birds together were seen on Kazan Lake, June 4. Four of these were males in full plumage.

RED-BREASTED MERGANSER. *Mergus serrator*. Quite common on Lac Ile-à-la-Crosse, nesting among the rocks along the shores. Two nests were found on a rocky islet in Kazan Lake. Nests were found from June 1 to June 18, with four to nine eggs each.

GOSHAWK. *Accipiter gentilis*. Four were seen. Probably nests. One was seen on June 6; the other three were noted in August and September.

SHARP-SHINNED HAWK. *Accipiter striatus*. Seen on several occasions. A nest with five young was found on July 2.

RED-TAILED HAWK. *Buteo jamaicensis*. Three pairs, with nests, were located on June 3, June 10 and June 21. The latter two had young.

BROAD-WINGED HAWK. *Buteo platypterus*. A nest with three eggs was found near Niska Lake, June 23.

ROUGH-LEGGED HAWK. *Buteo lagopus*. Eight were seen from September 16 and later, migrating southward. (One observed, no date, 1939—Bard.)

BALD EAGLE. *Haliaeetus leucocephalus*. Seen on four occasions between June 4 and October 1.

MARSH HAWK. *Circus cyaneus*. Scarce. A nest with four young was found on June 12.

OSPREY. *Pandion haliaetus*. An osprey was seen during the traverse of the McBeth Channel, south of Buffalo Narrows on June 16.

GYRFALCON. *Falco rusticolus*. A large falcon seen at Kazan Lake, August 29, was believed to be this species. It was a very dark bird which was obviously larger than a Peregrine Falcon.

PEREGRINE FALCON. *Falco peregrinus*. One was seen at Kazan Lake, July 17, near Ile-à-la-Crosse, August 15, and at Kazan Lake, September 6 and September 10.

PIGEON HAWK. *Falco columbarius*. A nest with four young was found near Kazan Lake, June 17. Several birds were seen at intervals throughout the summer.

SPARROW HAWK. *Falco sparverius*. Fairly common. Five nests were found in the first week of June.

SPRUCE GROUSE. *Canachites canadensis*. Fairly common wherever stands of large spruce and pine had escaped the fires. One nest with eight eggs was found, June 4, well hidden under a small spruce. The female was flushed from the nest. (Rather scarce, only one flock seen, others: March 28, one; March 29, one; March 30, six; April 1, seven; April 2, four, 1939—Bard.)

RUFFED GROUSE. *Bonasa umbellus*. Quite plentiful throughout the area. Four nests were found and several broods of young were encountered. The first nest, found on June 4, held 13 eggs, which hatched two days later. (Fairly common, both brown and red phase, 1939—Bard.)

WILLOW PTARMIGAN. *Lagopus lagopus*. (March 28, 10; March 29, four, 1939—Bard.)

SHARP-TAILED GROUSE. *Pedioecetes phasianellus*. Scarce. Three to five birds were flushed on several occasions. (Fairly common; "it was surprising to see Sharp-tailed Grouse so difficult to approach"; March 30, four, 1939—Bard.)

SANDHILL CRANE. *Grus canadensis*. A pair of cranes, sometimes a single bird, were seen in flight on several occasions, and it seems likely that a few pairs nest in the area. On September 16 several fairly large flocks of cranes flew over and a flock of 15 settled at the edge of the lake and fed for two hours.

VIRGINIA RAIL. *Rallus limicola*. Scarce. Near the Kazan River, about a half-mile from my cabin, I found about an acre of very boggy ground. Here, on July 4, I discovered four pairs of Virginia Rails nesting. Young birds were seen on July 10.

SORA. *Porzana carolina*. Fairly common. Twelve nests found from June 3 to July 4 each had seven to 14 eggs.

AMERICAN COOT. *Fulica americana*. Common. Eighteen nests were found from June 2 to June 25. First young were seen on June 8.

SEMIPALMATED PLOVER. *Charadrius semipalmatus*. Several birds were observed at Ile-à-la-Crosse, June 1.

KILLDEER. *Charadrius vociferus*. Scarce. A pair was found nesting at Ile-à-la-Crosse, June 1, and nests were found at Kazan and Peter Pond Lakes.

AMERICAN GOLDEN PLOVER. *Pluvialis dominica*. Seen in considerable numbers at Ile-à-la-Crosse on June 1. Fall date, September 22.

BLACK-BELLIED PLOVER. *Squatarola squatarola*. Seen in considerable numbers at Ile-à-la-Crosse on June 1. Fall dates, September 6 to September 21.

RUDDY TURNSTONE. *Arenaria interpres*. Six were seen at Ile-à-la-Crosse on June 1.

COMMON SNIPE. *Capella gallinago*. Rather scarce, but thinly spread over entire area. Two nests were found. One on June 14 had four eggs.

WHIMBREL. *Numenius phaeopus*. Two were seen feeding with several Black-bellied Plover at Kazan Lake, September 6.

UPLAND PLOVER. *Bartramia longicauda*. A single bird was found feeding on the shore at Kazan Lake on July 17.

SPOTTED SANDPIPER. *Actitis macularia*. Nesting pairs were widely spaced around the lakes. Three nests, each with four eggs, were found from June 2 to June 15.

SOLITARY SANDPIPER. *Tringa solitaria*. Scarce. Noted along edge of lakes fairly frequently but efforts to locate a nest met with no success.

GREATER YELLOWLEGS. *Totanus melanoleucus*. Scarce but probably breeding in the area. Five seen at Niska Lake on June 22 were probably an adult and four young.

LESSER YELLOWLEGS. *Totanus flavipes*. Fairly common. Two nests were found on June 5 and June 8.

Both nests held full clutches of four eggs.

KNOT. *Calidris canutus*. Three were seen on September 8 together with several Black-bellied Plover.

PECTORAL SANDPIPER. *Erolia melanotos*. Several small flocks were seen at Ile-à-la-Crosse on June 1, and at Kazan Lake from September 14 to September 25.

BAIRD'S SANDPIPER. *Erolia bairdii*. Flocks were seen at Kazan Lake from August 25 to September 10.

LEAST SANDPIPER. *Erolia minutilla*. Same as preceding species.

DUNLIN. *Erolia alpina*. Two birds were seen feeding with several Baird's Sandpipers on September 3. Both birds still had strong traces of black underparts.

SHORT-BILLED DOWITCHER.

Limnodromus griseus*.** Scarce. Five dowitchers seen at Niska Lake on June 17 were probably this species. I was disappointed in not finding this bird nesting. Others, possibly Long-billed Dowitchers (L. scolopaceus***), were seen at Ile-à-la-Crosse on May 28, and at Kazan Lake on September 16.

STILT SANDPIPER. *Micropalama himantopus*. Four were seen on August 16 feeding with a small party of Lesser Yellowlegs.

SEMIPALMATED SANDPIPER. *Ereunetes pusillus*. Another visitor in small numbers in spring and fall. Seen at Ile-à-la-Crosse on May 31, and at Kazan Lake, September 1 to September 18.

BUFF-BREASTED SANDPIPER.

***Tryngites subruficollis*.** Five were seen at Kazan Lake on September 2.

SANDERLING. *Crocethia alba*. Considerable numbers appeared on September 18; Eight were seen on September 29.

WILSON'S PHALAROPE. *Steganopus tricolor*. Rare. One female was seen on June 13 at Kazan Lake. Two males seen at Niska Lake on June 22 seemed to have young in hiding.

NORTHERN PHALAROPE. *Lobipes lobatus*. Probably a regular spring and fall visitor in considerable numbers. A flock of six were seen at Kazan Lake on June 13. Several

flocks were seen from August 3 to August 20.

POMARINE JAEGER. *Stercorarius pomarinus*. On June 22 at Dillon River I had a Pomarine Jaeger under observation for three hours. A large flock of Ring-billed Gulls were feeding on a pile of discarded fish on the shore of Peter Pond Lake. The jaeger was continually cruising along the shore and making quick swoops among the gulls.

PARASITIC JAEGER. *Stercorarius parasiticus*. Seen on two occasions on Kazan Lake—July 27 and September 16. The first of these birds was harrying the Black Terns. The second bird was cruising along the lake shore and several times swooped at small flocks of Baird's and Pectoral Sandpipers. All gulls and terns had disappeared at this latter date.

LONG-TAILED JAEGER. *Stercorarius longicaudus*. On June 13 a bird of this species flew directly over me when I was crossing Kazan Lake. This bird was seen harrying Common and Black Terns and later it flew directly over the canoe. My attention was at once drawn to the long central tail shafts. It was my first sight of the Long-tailed Jaeger, but I had previously seen ***parasiticus*** on a number of occasions, so the difference was at once noted.

HERRING GULL. *Larus argentatus*. Seen frequently. On June 22 I collected two sets of eggs from a rocky islet in Peter Pond Lake.

RING-BILLED GULL. *Larus delawarensis*. Often seen on Kazan Lake and plentiful on Peter Pond Lake where it probably breeds on some of the rocky islets.

MEW GULL. *Larus canus*. A small flock of this northern breeding species appeared on Kazan Lake, September 20 and stayed until September 28. This gull is probably a regular migrant through Saskatchewan, as it is in Alberta. A bird that is easily overlooked.

BONAPARTE'S GULL. *Larus philadelphia*. Rather scarce, but occasionally seen on Kazan Lake up to September 16. A nest containing three eggs was found near Niska Lake on

June 19. Young birds on the wing appeared on Kazan Lake on July 22.

COMMON TERN. *Sterna hirundo*. Quite plentiful throughout the district. Breeding in considerable numbers on the islands in Peter Pond Lake, June 22.

CASPIAN TERN. *Hydroprogne caspia*. A small flock of nine came to Kazan Lake on August 31.

BLACK TERN. *Chlidonias niger*. Fairly plentiful and nesting on Kazan and Niska Lakes.

MOURNING DOVE. *Zenaidura macroura*. A single dove was seen on September 12 feeding along the edge of Kazan Lake.

GREAT-HORNED OWL. *Bubo virginianus*. Fairly common. Seen on numerous occasions. (Common, some nights four could be heard calling; March 29, one, 1939—Bard.)

SNOWY OWL. *Nyctea scandiaca*. One was seen sitting on a rock at Kazan Lake on September 23.

HAWK-OWL. *Surnia ulula*. Seen on two occasions, September 18 and September 27. (One, April 6, 1939—Bard.)

SHORT-EARED OWL. *Asio flammeus*. Scarce. Single birds were seen on three occasions. One bird at Ile-à-la-Crosse, May 30, may have been one of a breeding pair. The other two birds were seen in September at Kazan Lake.

BOREAL OWL. *Aegolius funereus*. One was seen sitting on a low spruce bough on July 2. (One, March 27, 1939—Bard.)

SAW-WHET OWL. *Aegolius acadicus*. Scarce. Not seen but heard on several occasions. Probably breeding.

COMMON NIGHTHAWK. *Chordeiles minor*. Common. Six nests were found. First nesting date, June 9, one egg.

BELTED KINGFISHER. *Megaceryle alcyon*. Fairly common. Seen on numerous occasions. Three nests were found on islands in Kazan Lake, June 7, June 10, and June 13. Each nest held seven eggs. Nests were in sandy

cut-banks about seven feet high. Entrance holes were horizontal ovals about 18 inches from the top of the bank. Depth of holes, 24 to 30 inches. Nest a few pieces of weed stems. A female was removed by hand from one nest.

YELLOW-SHAFTED FLICKER. *Colaptes auratus*. Fairly plentiful. Several nests were seen.

PILEATED WOODPECKER. *Dryocopus pileatus*. Scarce, but nesting in a stand of large aspen poplars which had escaped the frequent fires. A nest was also found near Niska Lake, June 23.

YELLOW-BELLIED SAPSUCKER. *Sphyrapicus varius*. The commonest of the woodpeckers. Ten nests were found. First date, June 6.

HAIRY WOODPECKER. *Dendrocopos villosus*. Rather scarce. Seen at various points throughout the summer, and three new nesting holes recorded.

DOWNY WOODPECKER. *Dendrocopos pubescens*. Scarce. Perhaps a half-dozen were seen throughout the season, and two new nesting holes were found.

BLACK - BACKED THREE - TOED WOODPECKER. *Picoides arcticus*. Seen on several occasions but only one nest located, June 3. (Scarce, but recorded, 1939—Bard.)

NORTHERN THREE-TOED WOODPECKER. *Picoides tridactylus*. The Northern Three-toed was more plentiful than the preceding species. A nest with four eggs was found on June 7 and the eggs were collected. Nest hole was six feet high in the underside of a leaning tamarack. (Scarce, but recorded, 1939—Bard.)

EASTERN KINGBIRD. *Tyrannus tyrannus*. Fairly plentiful. Several nests were found. First date, two eggs, June 8.

EASTERN PHOEBE. *Sayornis phoebe*. Scarce. One nest located—June 6, four eggs. This nest was under eaves of an old trapper's cabin.

SAY'S PHOEBE. *Sayornis saya*. Two at Kazan Lake, June 3; one, at Niska Lake, June 20.

YELLOW-BELLIED FLYCATCHER. *Empidonax flaviventris*. Quite rare. A bird flushed from a nest containing four eggs on June 21. The nest was well hidden on the side of a hummock of moss.

TRAILL'S FLYCATCHER. *Empidonax traillii*. Fairly plentiful. One nest with four eggs, June 20; two nests were found on July 10.

LEAST FLYCATCHER. *Empidonax minimus*. Common. Several nests were found from June 10 to June 16. Nests, as usual, were built in forks of willow or poplar trees from five to thirty feet high.

WESTERN WOOD PEWEE. *Contopus sordidulus*. Common. Five nests were found from June 8 to June 27. Most of the nests were in tamarack trees

OLIVE-SIDED FLYCATCHER. *Nuttallornis borealis*. Rather scarce. Two nests were found on June 5 and June 12. The nests were in black spruce trees at a height of 20 feet.

HORNED LARK. *Eremophila alpestris*. A small flock was seen at Ile-à-la-Crosse on May 29, and again on September 12.

TREE SWALLOW. *Iridoprocne bicolor*. Common. Several nests were found from June 1 to June 15.

BANK SWALLOW. *Riparia riparia*. Seen in large numbers flying low over water, Kazan Lake, August 29.

BARN SWALLOW. *Hirundo rustica*. Two pairs were seen at Ile-à-la-Crosse, June 14 and I was told that they nest each year in a building at the Roman Catholic mission.

PURPLE MARTIN. *Progne subis*. Martins were seen through June and July. Rather scarce, but nesting in stumps in burned over woods.

GRAY JAY. *Perisoreus canadensis*. Fairly common. Breeding. At the beginning of June the broods of young had almost lost their dark juvenile plumage. (Very common; sometimes as many as six would come to our camp at one time; 1939—Bard.)

BLUE JAY. *Cyanocitta cristata*. Rather scarce. Apparently breeding. Only three Blue Jays were seen during the summer. They all appeared

to have nests in the vicinity but I did not find one.

COMMON RAVEN. *Corvus corax*. Fairly common. Breeding. Often heard and seen. Nine birds were seen together at Kazan Lake, July 19. (Occasionally passed us; they were never found feeding; March 28, one; March 30, two; April 4, one; April 5, one, 1939—Bard.)

COMMON CROW. *Corvus brachyrhynchos*. Only moderately plentiful. Four nests were found and the young birds destroyed. (Seldom seen, the season being naturally too early. The first crow identified was on April 5. From the fact that only two crow's nests were seen, it is believed that they are never plentiful. Others told us that crows are seen during the two migrations, but that few remain to nest. 1939—Bard.)

BLACK-CAPPED CHICKADEE. *Parus atricapillus*. Common. Four nests found between June 3 and June 10 contained young birds.

BOREAL CHICKADEE. *Parus hudsonicus*. Common. A nest found on June 3 held seven eggs. This species was seen almost daily and was quite plentiful. (Fairly common, coming to the camp they would search through our woodpile; and, strange to say, had little use for the suet I put out for them. 1939—Bard.)

RED-BREASTED NUTHATCH. *Sitta canadensis*. Fairly common. Three nests were found. Dates for two: June 12 and June 17.

BROWN CREEPER. *Certhia familiaris*. Scarce. Seen on June 18 and on two later occasions. This species may be much more common than appears since it is easily overlooked. Probably nests in the area, as on two occasions pairs of birds were noted.

HOUSE WREN. *Troglodytes aedon*. One was seen at Ile-à-la-Crosse, May 31; one at Kazan Lake, June 3.

WINTER WREN. *Troglodytes troglodytes*. One was seen on August 31, one on September 2; possibly same bird.

LONG-BILLED MARSH WREN. *Telmatodytes palustris*. Several pairs

were recorded nesting in reed beds on Kazan Lake. Four nests examined on June 15 and June 27 were empty.

ROCK WREN. *Salpinctes obsoletus*. On June 12 I noticed a small bird creeping about in a pile of logs. It was watched for thirty minutes and was identified as a Rock Wren. I was well acquainted with this species as it is quite common in the Red Deer badlands in Alberta.

ROBIN. *Turdus migratorius*. Common. Several nests were seen.

HERMIT THRUSH. *Hylocichla guttata*. Plentiful. Three nests were found on June 17, June 26 and June 27. Each nest held four eggs and each was on the ground in heavy poplar woods where wintergreen and other vegetation covered the ground.

SWAINSON'S THRUSH. *Hylocichla ustulata*. Plentiful. Two nests were found, June 16 and June 18, each with four eggs. The nests were five feet high in willow bushes.

MOUNTAIN BLUEBIRD. *Sialia currucoides*. Pairs were scattered thinly throughout the area. Four nests were located from June 2 to June 5. All four nests held young birds and were in old flicker holes.

RUBY-CROWNED KINGLET.

***Regulus calendula*.** Fairly common. Two nests with six and eight eggs respectively were found on June 28 and June 29. The nests were near the top of small black spruce, some 18 feet from the ground.

WATER PIPIT. *Anthus spinoletta*. Several were seen at Ile-à-la-Crosse on June 1 and they appeared in considerable numbers at Kazan Lake during the third week of September.

BOHEMIAN WAXWING. *Bombycilla garulla*. Fairly common and certainly nesting. The only definite proof of nesting was the observation on June 28 of a family of four young with flecks of down still adhering to their heads and necks.

CEDAR WAXWING. *Bombycilla cedrorum*. Fairly plentiful. Several nests were found from June 29 to July 15.

NORTHERN SHRIKE. *Lanius excubitor*. Shrikes were seen several

times and they may breed in the area. On July 7 I noticed a shrike flying across the open muskeg carrying a mouse or small bird. I watched until it disappeared, then followed up, hoping to find a nest. However, after walking about two miles I gave up all hope of finding it again. It was probably carrying food to its young.

SOLITARY VIREO. *Vireo solitarius*. Rather scarce. A nest with five eggs was found on July 4. The nest was slung under the stems of an arched poplar.

RED-EYED VIREO. *Vireo olivaceus*. Fairly plentiful. Four nests, all in white birch, were found from June 25 to July 7.

PHILADELPHIA VIREO. *Vireo philadelphicus*. Fairly plentiful. Two nests were found on July 6. Each held four eggs, and was in an alder thicket, swung from a twig near the top of a tree, about 15 feet above the ground.

BLACK - AND - WHITE WARBLER. *Mniotilta varia*. Two nests were found, each with four eggs, June 28 and July 3. In each instance the female was watched to the nest which was well hidden between exposed roots of a willow bush.

TENNESSEE WARBLER. *Vermivora peregrina*. Three nests found June 29, July 6 and July 7; each had four eggs. The nests were in the same kind of situation as the preceding species.

ORANGE - CROWNED WARBLER. *Vermivora celata*. Seen several times in early June and probably nesting.

NASHVILLE WARBLER. *Vermivora ruficapilla*. Fairly numerous and observed many times through June and early July.

YELLOW WARBLER. *Dendroica petechia*. Five nests were found with eggs and young from June 6 to June 25, in small poplars or willows.

MAGNOLIA WARBLER. *Dendroica magnolia*. Three nests found on June 12, June 17 and June 23; each contained four eggs. Each pretty nest was built in a fork of a small spruce in a willow thicket, and consisted of long grass stems untidily put to-

gether, but neatly lined with deer hair.

CAPE MAY WARBLER. *Dendroica tigrinum*. Seen and heard almost daily throughout June and July. Undoubtedly nesting, but the nest is usually placed near the tip of a fairly tall spruce and is very difficult to locate.

MYRTLE WARBLER. *Dendroica coronata*. Two nests were found, each with four eggs, on June 5 and June 7. A common species nesting in spruce or tamaracks.

BLACK-THROATED GREEN WARBLER. *Dendroica virens*. Another warbler seen on numerous occasions in June and July usually in stands of young jack-pine, where, I presume they were nesting.

BAY-BREASTED WARBLER. *Dendroica castanea*. Seen several times in June and early July.

BLACKPOLL WARBLER. *Dendroica striata*. Only one pair was seen and their nest with young was found on July 9. This nest was found only after watching the parent birds for a long period. It was near the ground in a thick growth of Labrador tea. This must be almost a southern record for a nest of this warbler.

PALM WARBLER. *Dendroica palmarum*. Three nests were found, each with four eggs: June 30, July 2 and July 5. A fairly common species, nesting in tiny seedling spruce about a foot from the ground.

OVENBIRD. *Seiurus aurocapillus*. One nest with three young was found on July 8, at the foot of a poplar. The bird was watched to its nest.

NORTHERN WATERTHRUSH. *Seiurus noveboracensis*. Passes through in good numbers and a few pairs apparently remain to nest. Adult birds were encountered several times through June.

MOURNING WARBLER. *Oporornis philadelphia*. Fairly common through June and July. Certainly breeds, but the nest is among the most difficult to find.

YELLOWTHROAT. *Geothypis trichas*. One nest with three eggs was found on July 2. Yellowthroats were

with regularly wherever suitable met with regularly wherever suitable

WILSON'S WARBLER. *Wilsonia pusilla*. Encountered almost daily, especially where willow thickets were grown up with dense grass.

AMERICAN REDSTART. *Setophaga ruticilla*. Four nests were found, each with four eggs, from July 1 to July 10. Nests were all of the usual type, placed in a small fork against the stem of a willow or poplar and quite inconspicuous.

The above 18 species of warblers were all recognized and seen in varying numbers. Nests were found as indicated. It is likely that the remainder were nesting in the area.

HOUSE SPARROW. *Passer domesticus*. One was seen at Ile-à-la-Crosse, no recorded date.

WESTERN MEADOWLARK. *Sturnella neglecta*. Scarce. A pair was seen at Ile-à-la-Crosse, June 1.

YELLOW-HEADED BLACKBIRD. *Xanthocephalus xanthocephalus*. Fairly common. Many nests were found in reed beds. Egg-laying had just started on June 1.

REDWINGED BLACKBIRD. *Agelaius phoeniceus*. Common. Breeding. Many nests were seen. Like the preceding, egg-laying appears to commence the end of May.

BALTIMORE ORIOLE. *Icterus galbula*. Fairly common in aspen poplar stands. Two nests were found on June 12; both in poplars 25 feet from the ground.

RUSTY BLACKBIRD. *Euphagus carolinus*. I was surprised to find this species rather scarce. Nests with young were found June 4 and June 7.

BREWER'S BLACKBIRD. *Euphagus carolinus*. Seen at Ile-à-la-Crosse and nests found, June 1.

COMMON GRACKLE. *Quiscalus quiscula*. Seen at Ile-à-la-Crosse and nests found, June 1.

BROWN-HEADED COWBIRD. *Molothrus ater*. Common. Eggs of this species were found in nests of Yellow Warbler, Black-and-white Warbler, Song Sparrow and Chipping Sparrow.

WESTERN TANAGER. *Piranga ludoviciana*. Rather scarce. One nest was found, July 6. The nest, which was 30 feet high in a large white spruce, held four eggs. It was ten feet from the trunk on a horizontal bough.

ROSE-BREASTED GROSBEAK.

***Pheucticus ludovicianus*.** Fairly common. Three nests were found: June 12, June 23, and June 27. All nests were in white birch. In two nests the male bird was sitting.

PURPLE FINCH. *Carpodacus purpureus*. Common. Two nests, with three and four eggs each, were found on June 14 and June 16. The nests were in black spruce trees.

PINE GROSBEAK. *Pinicola enucleator*. (A few were noticed between March 27 and April 8, 1939—Bard.)

HOARY REDPOLL. *Acanthis flammea*. Common after September 1.

COMMON REDPOLL. *Acanthis flammea*. Common after September 1. (Hundreds of Red-polls fed on weed seed found along the two ridges. 1939—Bard.)

AMERICAN GOLDFINCH. *Spinus tristis*. Rather scarce. One nest was found on July 17. It had four eggs and was in a small willow bush.

SAVANNAH SPARROW. *Passerculus sandwichensis*. Common. Several nests were found from June 3 to June 12. All nests had full sets of four or five eggs.

LE CONTE'S SPARROW. *Passerherbulus caudatus*. Fairly common. A nest with six eggs was found on June 15. It was a foot from the ground in a tussock of grass.

VESPER SPARROW. *Poecetes gramineus*. Scarce. A pair was seen at Ile-à-la-Crosse on June 1.

SLATE-COLORED JUNCO. *Junco hyemalis*. Common. One nest with four eggs, several nests with young, were found from June 1 to June 15. All nests were in hummocks of moss, sometimes in the muskeg, more often on the pine ridges.

TREE SPARROW. *Spizella arborea*. Appeared in numbers at the end of September.

CHIPPING SPARROW. *Spizella passerina*. Common. Nests were found from June 3 to June 20; all nests were in white spruce.

CLAY-COLORED SPARROW. *Spizella pallida*. Several birds were seen at Ile-à-la-Crosse, June 1. This species was often observed where a patch of open grassland occurred.

HARRIS' SPARROW. *Zonotrichia querula*. On September 22 a considerable number were in the willow thickets along Kazan River and Kazan Lake. Probably occurs regularly in migration.

WHITE-CROWNED SPARROW.

***Zonotrichia leucophrys*.** Plentiful after September 15. I had anticipated it would be nesting in the area, but I saw no White-crowns until September, except several belated migrants at Ile-à-la-Crosse, June 1.

WHITE-THROATED SPARROW

***Zonotrichia albicollis*.** Fairly plentiful. Four nests, all with full sets of eggs, were found from June 7 to June 25.

FOX SPARROW. *Passerella iliaca*. Fairly common. A nest containing young was found on June 18. The nest was well hidden in a willow thicket, and was on the ground in dense herbage. It was only found by watching the parent bird.

LINCOLN'S SPARROW. *Melospiza lincolni*. Common. Three sets of four eggs and four nests with young birds were found from June 10 to June 30.

SWAMP SPARROW. *Melospiza georgiana*. Common. Nests with eggs and young were found from June 4 to June 12. The mixture of rushes and tall grass was ideal for the Swamp Sparrow's nests.

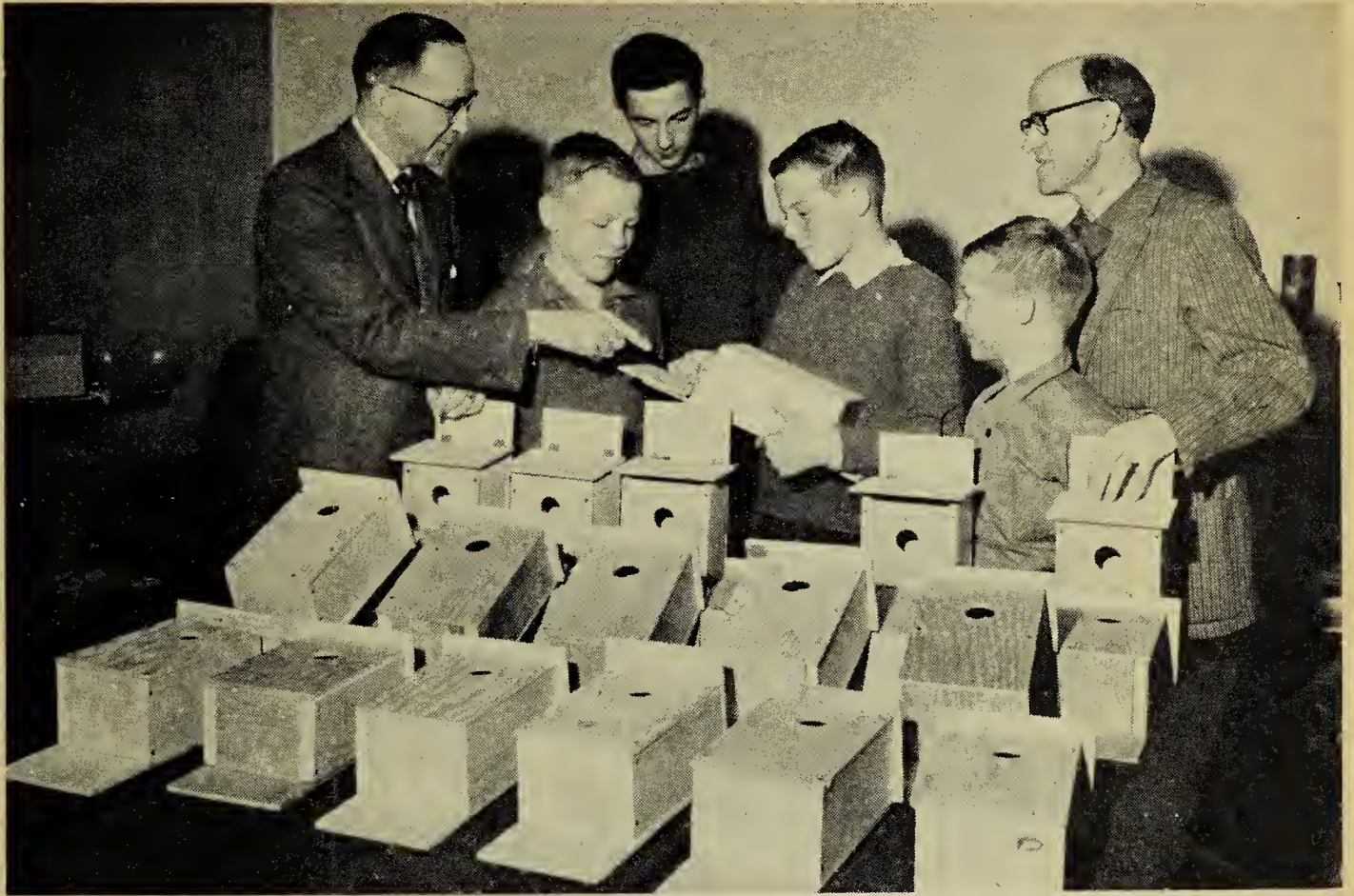
SONG SPARROW. *Melospiza melodia*. Common. Full sets of eggs were found from June 1 to June 20. One nest was in the boughs of a fallen spruce, 30 inches from the ground.

LAPLAND LONGSPUR. *Calcarius lapponicus*. A few birds appeared with the Snow Buntings (below).

SNOW BUNTING. *Plectrophenax nivalis*. First seen, September 20. After that date, frequently seen. (Snow Buntings passed in several large flocks; 1939—Bard.)

Members Build Bluebird Houses

By **Frank Roy**, President, Saskatoon Natural History Society



In recent years the Eastern Bluebird has decreased so rapidly in numbers that fears have been expressed for its continued survival. The rapid decline has been attributed to three factors: indiscriminate mass insect spraying, icy winter temperatures and late spring snowstorms, and, most important, lack of nesting places. Starlings and House Sparrows now occupy thousands of nestholes formerly available to Bluebirds.

Encouraged by results of birdhouse campaigns in several Eastern states and provinces, members of the Saskatoon Natural History Society voted at the March meeting to experiment with Bluebird houses in the Saskatoon area to encourage Mountain Bluebirds. While we had no certain evidence that Mountain Bluebirds were declining in numbers or that they were short of nesting sites, everyone agreed that putting up nest-boxes might well encourage more Bluebirds to remain, as well as enticing such species as Tree Swallows and Downy Woodpeckers.

Bert Hardy and Jim Slimmon rounded up the necessary lumber; Greg Michalenko offered the use of power tools; Stuart Houston provided the specifications and his son, Stan-

ley, constructed a model house. The actual builders were Jim Slimmon, Colin Ward, Stuart Houston, Russ Shemko, Bill Richards, Dr. Michalenko, Greg Michalenko, and Jonathan, Peter and Christopher Gerard. Art Heron contributed money for hinges and screws. In a couple of days 37 nest-boxes were built.

To date members of the Society have put up over 30 boxes in the area south and west of Saskatoon. A careful record of locations is kept. The houses are set on posts, generally in the open, about four feet from the ground, and at least a quarter of a mile from the nearest roads and buildings. Where possible, owners of the land have been contacted. In nearly every instance, farmers have been pleased to co-operate with us in this project.

At the time of writing, it seems unlikely that many boxes will be occupied this year. In the course of the next couple of seasons we may be able to draw some conclusions re size of nest-box, diameter of hole (at present 1½ inches in order to keep out Starlings), location in relation to trees, and height from the ground. In a later article we shall indicate the results of the Bluebird experiment.

Hazards Faced by Colonial Birds

by C. Stuart Houston, Saskatoon



California Gull, a few hours old.

Photo by H. Dommasch.

I have been quite impressed by the special difficulties faced by colonial birds, as I have visited them for banding purposes in the past ten years, from flood conditions through to drought. Their nesting habitat requirements are very specialized, for they require islands on large lakes. They are very vulnerable to the changing water levels which fluctuate between wide extremes on the prairies. Since they cannot tolerate much human visitation, their choice of nesting sites is becoming more restricted. Thompson, referring to the White Pelican, said in 1932 that Saskatchewan presented "the most favorable conditions of any region within its breeding range"; yet even here they appear in a somewhat precarious position.

It might be of interest to record the changing status of some of the Saskatchewan colonies of pelicans,

cormorants and gulls that I have visited.

Last Mountain Lake was traditionally one of the best-known nesting sites of colonial birds. Here the late Reuben Lloyd of Davidson banded many cormorants in the late 1920's and 1930's. Here Fred Bard made his outstanding movie, "The Pelicans of Last Mountain"—and I understand from Fred that pelicans nested regularly at the north end of the lake, opposite Imperial Beach, up to and including 1952.

My first visit to the north end of Last Mountain Lake was in 1953. The lake rose several feet during the latter half of June, flooding the usual nesting sites, and the pelicans did not nest at all that year. Some cormorants belatedly attempted to nest at a new site twenty miles south on the west shore, opposite Penzance, where on June 26 there were 25 nests with

eggs, 11 nests with live young and 5 with dead young. On August 1, the water level was up a further ten inches and most of that island was submerged — but there were 35 new cormorant nests with eggs on the highest ground!

In 1954, the cormorants had two successful colonies: the one begun the previous year on the west shore opposite Penzance, where I banded 85 young on July 19; the other, on the east shore across from Imperial Beach, where 71 were banded on July 24. Fifteen pelicans were banded at the latter location (a rather poor success from the 28 nests there on June 23) and this was the last known successful nesting of pelicans on the lake.

In 1955, the cormorant colony east of Penzance was thriving, though the island used previously was completely under water. The birds had moved a half mile north and a bit west to a new island — the highest part of what for years had been a cultivated field. The 90 nests present on June 20 produced 144 young to band on July 16.

In 1956, water levels were dropping again and by the middle of July the 1955 nesting site was separated from the mainland only by a grassy area with water a few inches deep. Although readily accessible to mammalian predators from the mainland, 181 young cormorants were banded.

In 1957, the site of the 1955 and 1956 colonies was again dry land. The gulls, which had nested near the cormorants each year, moved back to their 1954 site. Only eight cormorant nests were present on June 24.

In 1958, there were again about 500 gull nests (95 per cent Ring-billed and 5 per cent California), but only five cormorant nests.

No cormorant nests could be located on Last Mountain Lake in 1960 or 1961.

Crana Lake was visited by Steve Mann on May 18, 1958, when an island near the south shore contained 256 pelican nests, 87 cormorant nests, 428 gull nests and 58 Common Tern nests.

When Steve Mann took me to this island for the first time on June 23, 1960, we found a rather desolate sight — the bodies of nearly 1000 recently

dead young gulls were found on the island. However, a roughly equal number of healthy-looking young gulls had survived. Two days previously, on the evening of June 21st, there had been a sudden downpour of $1\frac{1}{4}$ " of rain and it is presumed that half the young gulls had in some way perished as a result of this. This gull colony was predominately Californias, with only a few Ring-bills. There were about 200 young pelicans and over 150 young cormorants, apparently thriving.

On June 27, 1961, water levels were down greatly and only a narrow channel of shallow muddy water separated the island from the mainland. About 200 young cormorants and 100 young pelicans were present, but there were no active gull nests. At the west end of the island was a rather small group of dead downy gulls, obviously dead for weeks. Mr. James, the neighboring rancher, informed us that a hail storm had occurred on June 4. We also speculated whether skunks or weasels might have crossed the shallow water to destroy the gulls without molesting the larger pelicans and cormorants.

Quill Lake was visited by John F. Ferry in July, 1910. He found 750 to 1000 young pelicans and nearly 300 young cormorants on an island at the south end of Big Quill Lake. Many adult birds were seen flying in the direction of Last Mountain Lake each evening and Ferry believed they were feeding there. J. A. M. Patrick of Yorkton visited this colony in the 1920's and Fred Bradshaw of the Museum visited an island off the west shore of Big Quill in 1931 and reported 2000 adult pelicans and over 1000 young.

During the Second World War, the Quill Lakes were used as a bombing practice range for planes based on the nearby Dafoe air station. The pelicans and cormorants deserted the lake at this time. It is not certain when these colonies were re-established, but I believe their increasing size may have been coincident with the decreasing size of the colonies at Last Mountain Lake.

In 1956, I visited an island in the western end of Little Quill Lake (actually the connection between the two Quill Lakes, sometimes called "Middle Quill" or "Muddy Lake").

Here there was a small colony of Ring-billed Gulls together with 52 young cormorants and 19 young pelicans.

In 1957, this colony was larger, with 70 young cormorants and 100 young pelicans. A mile to the south, on a narrow-necked peninsula (recently an island) was an apparently new colony of at least 220 young pelicans.

In 1958, both of these areas were deserted due to falling water levels, and another colony with 160 young pelicans was located on an island at the south end of Little Quill Lake, six miles north of Mozart. Seven Great Blue Heron nests were located in low trees, six to ten feet high, beside the colony. The farmer nearby said that the pelicans had been nesting there since about 1955.

In 1959, this area too became part of the mainland. No pelican colonies were located in 1959 or 1960, but it was presumed that they were somewhere on Big Quill.

In 1961, water levels of the Quill Lakes deteriorated drastically — so that the shoreline of the northeast corner of Big Quill receded one mile and "Middle Quill" dried up entirely. A survey on foot of the likeliest portion of Big Quill — the northeast corner — was unsuccessful and in desperation on July 5th I chartered a light plane to fly me over the Quill Lakes to locate the nesting site of the pelicans. One flock of 30 pelicans were seen in flight, but a careful search of the entire shoreline showed that all previous islands with vegetation were now part of the mainland. The new low islands that had appeared were too low and offered no cover. Obviously no pelicans or cormorants nested on the Quill Lakes in 1961.

Manito Lake, south of Neilburg, had 300 nesting pairs of pelicans when J. A. Munro visited it in June 1921. According to Bradshaw, they left this lake during the drought years of 1930 or 1931.

S. R. Belcher and I boated around this large saline lake on June 25, 1958 and could find no evidence of colonial birds nesting.

Dore Lake had over 100 young pelicans and over 500 young cormor-

ants when I visited it in July 1956. The conservation officer informed me that local ranchers were in the habit of taking boatloads of eggs from these colonies to feed their mink, rationalizing that the fish-eating birds were harmful to the fishing interests on the lake. Since then, new roads and new resorts have been built, the major resort being just opposite the island I visited. I understand that the colony has decreased in size.

Redberry Lake, where 150 to 200 young pelicans are raised yearly, may soon be in danger owing to the increasing use of the lake as a resort. The only "safe" lake in southern Saskatchewan, with a good-sized island, rarely visited by humans, is **Old Wives Lake**. Further north, **Suggi Lake** (northwest of Cumberland House) and **Lavalee Lake** (at the north end of Prince Albert National Park) are still relatively unmolested.

With better roads, bigger boats and motors, and an increasing number of people visiting all of these lakes in recent years, one can visualize an increasing problem in years to come. Already it appears that no portion of Last Mountain Lake is remote enough to allow pelicans and cormorants to nest successfully. It is not unusual to find recently empty beer bottles in the middle of a gull colony, offering evidence of recent disruptive visits by boaters.

Pelicans and cormorants particularly cannot tolerate human molestation. A short exposure to the midday sun will kill a small naked cormorant or pelican. When the pelicans are frightened from their nests, the brazen California Gull takes advantages of this opportunity to break open and suck the pelican eggs. Eggs may be rolled from their nests by the hasty flight of the parents.

Young pelicans when frightened collect in groups called "pods" and the weaker ones may easily be trampled to death.

We cannot keep people from these lakes, but we should work for laws preventing people from setting foot on colonial islands in the nesting season. It would be difficult to enforce, but I would like to see boats prohibited from waters within half a mile of such islands. The hour is already late — but the picturesque



Photo by Fred G. Bard.

Colony of pelicans and cormorants at Old Wives Lake, 1960.

pelican is too unique a feature of the summer landscape to be allowed to disappear.

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PROTECTION URGED FOR COLONIAL BIRDS ON REDBERRY LAKE

At a meeting of the Saskatoon Natural History Society on January 18, 1962 a resolution was drafted urging protection of colonial birds on Redberry Lake. Learning of plans to turn Redberry Lake into a resort, the Society was particularly concerned lest nesting sites of pelicans, cormorants, gulls and terns on the islands in the lake be destroyed. Even though the lake is a wildlife sanctuary, holidayers are likely to visit the islands during the nesting season, unaware that even a short visit sometimes results in the deaths of hundreds of young birds. The pelican in particular has been deprived of most of its for-

mer nesting sites in settled Saskatchewan.

The following resolution was submitted to the Saskatchewan Department of Natural Resources and the Canadian Wildlife Service:

Because pelicans, cormorants, gulls and terns are birds of very limited habitat, with specific nesting requirements, be it resolved that the islands of Redberry Lake and the waters within half a mile of the islands be preserved unmolested as a wildlife sanctuary.

In reply, the Honourable A. G. Kuziak, Minister of Natural Resources, told the Society that his department plans no recreation development for Redberry Lake in the immediate future. Should such development take place at a later date, Mr. Kuziak assured the Society, "you may be certain that my department will be most concerned that the faunal life of the lake be safeguarded against disturbance and destruction of habitat."

While encouraged to learn that the Recreation Branch will not initiate development without considering the needs of colonial birds, the Society is still concerned about **private** plans for development of the lake.

ADDITIONAL RECORDS OF MEADOWLARK NIGHT SONG

by Robert W. Nero, Regina

In 1959 I reported a record of night song given by a Western Meadowlark (*Sturnella neglecta*) (**Blue Jay**, 17: 59). Since then I have heard a meadowlark sing at night on two occasions. A single brief song was heard in 1961 on May 25 at 10:30 p.m., and on June 4 at 10:40 p.m. (M.D.T.). Both songs were apparently given in response to our car as we passed slowly along a field road searching for mice about eight miles east of Regina. Since the song was heard in about the same place each time I presume that it was given by the same territorial bird. On each occasion we re-traced our route at least once but the song was only heard on our first passage. Although I have driven many miles at night in similar situations I have no other record

of night song in this species. Night song was not recorded for any diurnal species during the course of a study in Wisconsin by Aldo Leopold and Alfred E. Eynon (1961. Avian daybreak and evening song in relation to time and light intensity. **Condor**, 63: 269-293).

INFORMATION WANTED RE: HORNED GREBE

Victor Schmidt of Melville is studying the life history of the Horned Grebe and would appreciate receiving information from other Saskatchewan observers re: spring and fall migration, nest records, etc. Victor is also interested in other migration records from various parts of Saskatchewan; perhaps other young naturalists would like to compare notes with Victor. We also remind him to watch for the Co-operative Spring Migration reports in the September issue of the **Blue Jay**.

Plants



Photo by G. F. Ledingham

Astragalus gilviflorus Sheld.

This early-flowering legume is one of the *Astragalus* species being studied by our Editor. As the **Blue Jay** goes to press, the cushion milk-vetch shown here is coming into bloom, and Dr. Ledingham is collecting other species of *Astragalus* in the southwestern United States. Readers who know the Editor as a careful observer and keen naturalist will be looking forward to hearing about his trip.

The Silverberry



Photo by W. C. McCalla

Elaeagnus commutata Bernh.

The silverberry is a common shrub along riverbanks and on sandy prairies. The leaves are silvery on both sides and even the flowers, yellow within, are silvery on the outside. The flowers are wonderfully sweet-scented and the whole country-side knows when the silverberry is in bloom. The fruits are silvery. Inside the dry mealy flesh of the fruit there is an eight-striate brown stony seed. These make attractive necklaces when they are cleaned and then softened for piercing by soaking. The silverberry is often rather inappropriately called wolf willow.

Vegetation of Eroded Hillsides

by **Keith F. Best**, Swift Current, Sask.

Turning once again to the eroded areas in our series of prairie plants, we find two additional species which seem to thrive in these places of severe exposure.

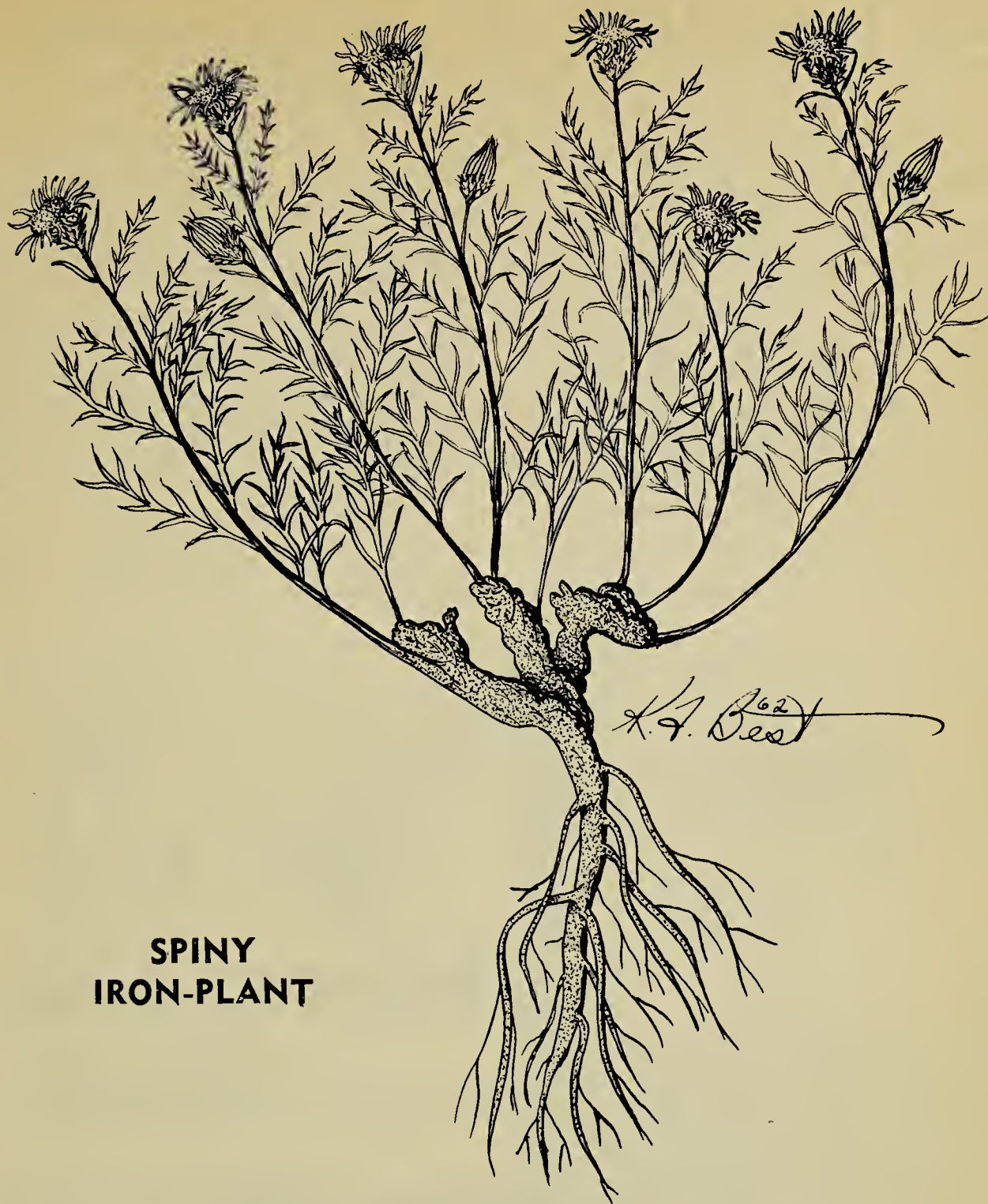
Colorado rubber-weed, or pingue (*Hymenoxys richardsonii*) is a green, leafy, tufted perennial with sunflower-like heads. Pingue, pronounced (peeng'gway), the widely established and generally used common name of this species, is a Spanish word meaning oily. This undoubtedly refers to the oily, resinous leaves of the plants. However, the rubberweed title is also appropriate as the plant

contains rubber latex, and grows abundantly over large areas in central and southern Colorado.

This perennial grows from, thick tap roots, which usually divide into a number of root crowns, each of which usually produces a more or less branched, leafy stem from 4 to 15 inches high. The root crowns are generally enlarged, and bear the old leaf bases from the previous year's growth. The crowns are covered with white or tawny woolly hairs. The leaves are mostly divided into 3 or 5 very narrow lobes. The numerous flower heads have bright yellow ray



**COLORADO
RUBBER-WEED**



SPINY IRON-PLANT

florets with orange veins and are about $\frac{1}{2}$ inch in length.

Generally occurring on dry, sandy or gravelly eroded areas that are in full sunlight and free from competition, it is found from Saskatchewan, south to Texas and westward to California and Oregon.

Under normal conditions the rubberweed is not grazed by livestock, but under severe overgrazing conditions, it may be grazed by sheep, goats and to some extent by cattle despite its poisonous properties. Losses are more or less prevalent in late winter, early spring or at such times as before palatable forage growth has begun or where it has become exhausted by overgrazing.

It is interesting to note that the New Mexican Indians used the bark of the roots as a substitute for chewing gum.

Spiny iron-plant (*Haplopappus pinulosus*) is another plant frequently encountered on the dry eroded hillsides of the southern prairies. A much-branched perennial from 4-12 inches high, it grows from a thick woody root. The bluish-green leaves, from $\frac{1}{2}$ to $1\frac{1}{2}$ inches in length, are deeply separated into narrow segments with pointed teeth. The heads are numerous, yellow and $\frac{1}{4}$ to $\frac{3}{4}$ inches across with narrow ray florets. This plant occurs on dry eroded hillsides across the southern prairies and south as far as Mexico. Flowering generally occurs from July to September.

The Dwarf Mistletoe, A Plant Parasite

M. V. S. Raju and T. A. Steeves

(University of Saskatchewan, Saskatoon)

The genus *Arceuthobium*, commonly known as dwarf-mistletoe, belongs to the family Loranthaceae and comprises about 12 species which are mainly distributed in the northern hemisphere. It is a common parasitic plant on pine, spruce and fir and has been known to cause considerable damage to them.

During a recent visit to La Ronge (in northern Saskatchewan) we had an opportunity to see an area of jack-pine forest about 20 miles south on La Ronge-highway. We were amazed by the abnormal appearance of many of the plants. The abnormalities were

such that they are commonly referred to as "witches' broom." In many vascular plants "witches' broom," or the bushiness of the lateral branches, is attributed to infection by a fungus or a virus. However, in the present case, we were able to find *Arceuthobium americanum* Nutt.,* growing on both young and old plants of jack-pine, causing certain morphological deformities which make the host-wood useless. Some of the plants

*The species has tentatively been identified as *Arceuthobium americanum* Nutt.



Explanation of Figures. 1. Jack pine with brooming induced by dwarf mistletoe. 2. Infected and normal shoots of jack pine. 3. Enlarged view of broom, arrow points to parasite. 4. Enlarged view of the parasite on a branch of its host. 5. A jack pine branch showing "knot" caused by the dwarf mistletoe.

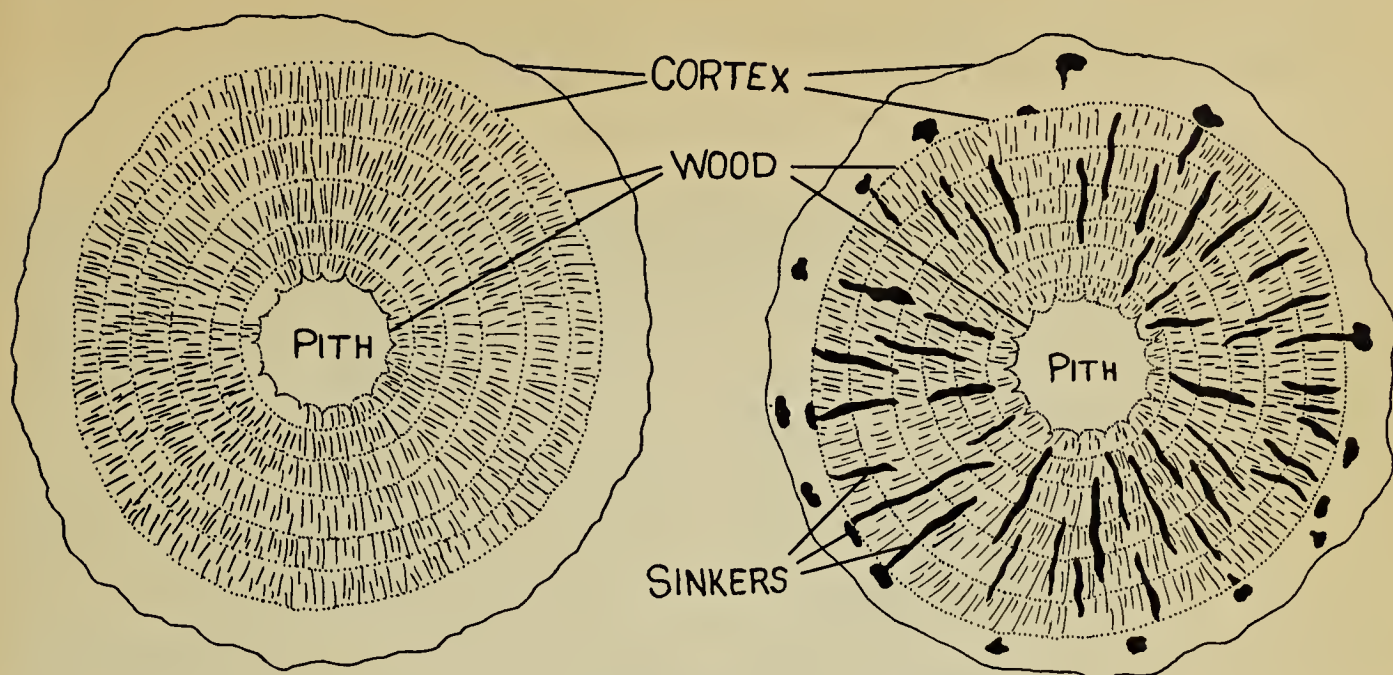


Fig. 6. Diagrams showing normal (left) and infected wood. Note the sinkers in the infected wood.

looked dwarfed or had a very stunted growth.

Arceuthobium americanum has aerial shoots which vary in height from 4 to 50 millimeters. The entire plant can be divided into two portions—the lower part which is inside the host plant, and the aerial portion. The aerial or exposed portion has articulated shoots, the branches of which have opposite scaly leaves. In the axils of these scaly leaves develop flowers. The flowers are small, one to three millimeters in diameter. The female flowers produce fruits which are sticky and are disseminated by wind, small mammals or birds.

The portion of the parasite within the host plant is often called the “endophytic system,” and its morphology has been a subject of considerable controversy. It forms a highly ramifying system of strands, which are found both in the cortex and in the wood of the host. Such strands have been termed “sinkers,” some of which penetrate radially into the solid wood of the host and irregularly separate it.

A glance at the published literature indicates a casual mention of a peculiar type of vegetative propagation in the “endophytic system” of the parasite. The “sinkers” in the cortex are capable of extensive ramification producing profuse endophytic branches some of which penetrate radically into the host-wood. They also produce buds which develop into aerial flower-bearing shoots. The mechanism concerning the initiation and de-

velopment of buds is not fully understood. Although not much attention has been given to this mode of “vegetative propagation,” it seems that it is of major biological importance in many parts of Canada.

Arceuthobium is a very important plant economically. It is extensively found in the coniferous forests of U.S.A. and Canada. The dwarf-mistletoe brings about morphological and anatomical abnormalities such as swellings, cankers, etc., which ultimately may become sites of insect invasion. This can result in necrosis of the infected regions and finally in the rotting of wood. The parasite also induces the excessive formation of parenchyma and the development of abnormal grain, which lower the quality of the host-wood. Moreover, it decreases both the growth and the longevity of the host plant, and in some adult plants the parasite induces such contortions that the wood has little timber value. For further details references listed at the end of this article may be consulted.

Much time and effort have been expended in eradicating the infection and controlling the spread of the dwarf-mistletoe. Various herbicides have been used and some biological and silvicultural methods have been applied. None of these methods, however, has proved completely successful. In this connection, it may be suggested that attempts should be made to develop a clear understanding of the growth and development of

(Continued on page 84)

FIRST REPORT OF SEA LAVENDER IN SASK.

by Dorothy R. and
Douglas E. Wade, Regina

On August 7, 1960, we stopped at an abandoned house which represents the entire town of Big Muddy, south of the Big Muddy Valley. Later we learned from a local rancher that the house once served as headquarters for the R.C.M.P. Exploring the hills and coulees in the vicinity of the town we came across a picturesque cemetery located on a hillside high above the valley floor. Prominent among those buried here were the Marshall family, who came into the valley in 1895.

The cemetery was fenced and did not show the signs of heavy grazing which were evident in the surrounding grasslands. Through the cemetery and along the fence there was an unusual plant which reminded me of statice, the cultivated plant which is often used in dried form in floral arrangements.

Parts of the plant were pressed and it has been tentatively identified by Dr. George Ledingham, University of Saskatchewan, Regina Campus, as sea lavender, *Limonium* sp. **Gray's Manual of Botany**, 1950, mentions only two species for eastern North America and the genus *Limonium*, is not mentioned in floras of Manitoba, Alberta, or North Dakota. *Limonium*, of the family Plumbaginaceae, is made up of about 180 species, mostly perennial herbs, well scattered about the world but mainly growing on sea coasts in the northern hemisphere, especially in Asia. **The Standard Encyclopedia of Horticulture**, by L. H. Bailey, 1935, lists 32 species which may be cultivated.

Since this genus, *Limonium*, has apparently not been reported previously as being established in any of the prairie provinces or adjoining states it is interesting to think of this plant thriving in an abandoned cemetery which apparently has not been visited for many years.

It is interesting to speculate about how this plant came to this lonely ranch country. Was it first grown in a nearby garden and then deliberately seeded or planted in the cemetery?

COMMON MULLEIN IN SASKATCHEWAN IN 1956

by Mrs. MacGillivray, Moose Jaw

John Hudson's description of the Common Mullein, *Verbascum thapsus* L., in the March 1962 **Blue Jay** sounded very familiar and I looked through my pressed plants to get the details.

On July 31, 1956, I found a single plant along the Canadian National Railway track, near my home. Since I had not seen the plant previously in Saskatchewan I pressed leaves and flowers which I identified as Common Mullein. I have now sent this specimen to Dr. George Ledingham, University of Saskatchewan, Regina Campus, and he has verified the identification and deposited the specimen in the herbarium there.

It is interesting to note that this Moose Jaw specimen was not in the large waste railway area in the center of Moose Jaw but along the high dry bank of the C.N.R. where it skirts the northern fringe of the city. It will be interesting to see if this plant can become established and act as a weed in Saskatchewan.

(Continued from page 83)

the parasite on the host plant. A thorough knowledge of the life-history of the parasite and its relationship with the host plant will probably give some clue which can be exploited to control the spread of this pernicious parasite and conserve the natural wealth of our coniferous forests.

We are grateful to Mr. Norman Ferrier for assistance with photographic work.

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High Plains Petroglyphs

by A. J. Hruska, Gerald

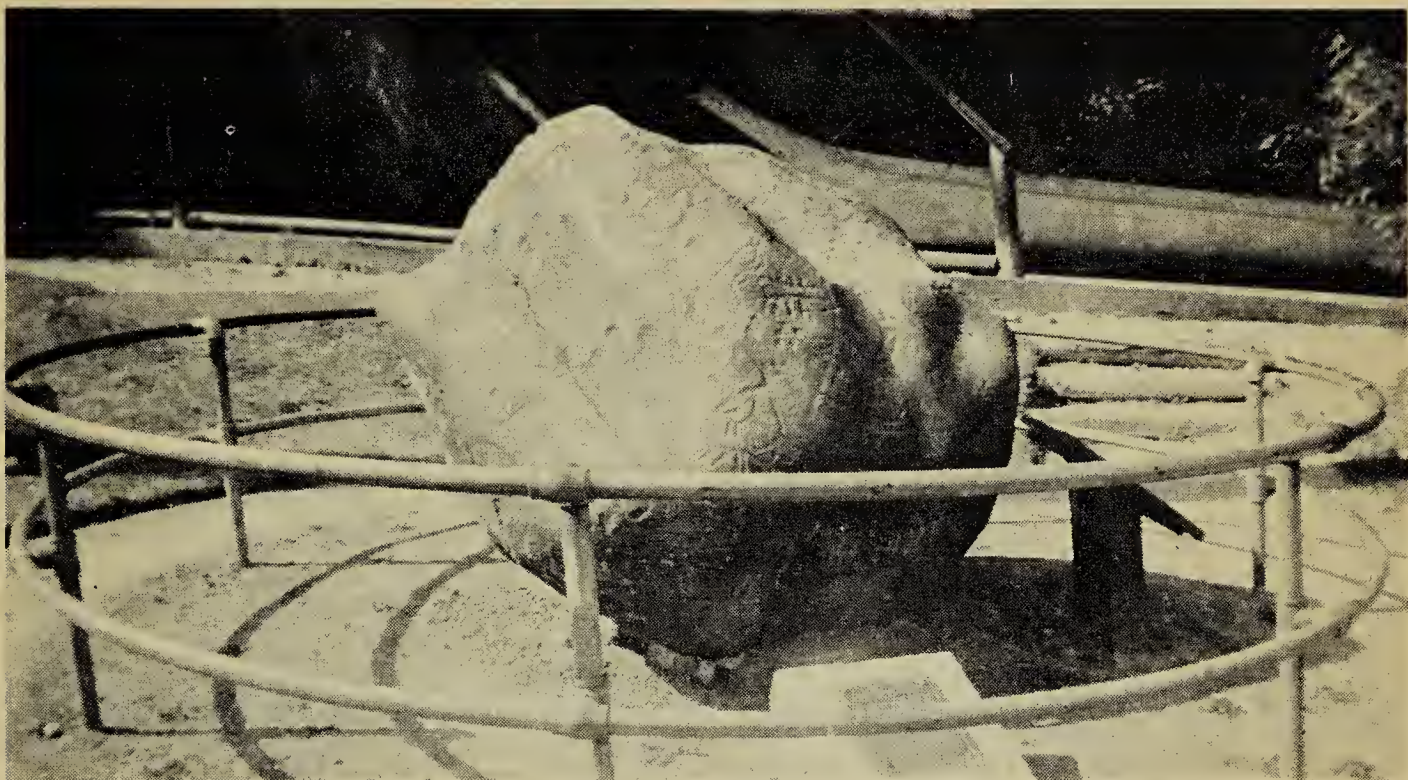


Photo by A. J. Hruska

Fig. 1. Petroglyph in Stanley Park, Vancouver, brought from Fraser River near Lone Creek Cabin, 1926.

There is one aspect of prehistoric Indian culture for which very little information is available — that subject is petroglyphs. This term refers to Indian symbols or images which are carved or incised on stone, either on boulders or on rock cliffs. Limestone, sandstone and granite are frequently used for this purpose. Petroglyphs are numerous on Vancouver Island but their numbers decrease on the coast mainland. On the inland side of the mountains petroglyphs are found in the foothills and spread out to the high plains. They are also abundant in some regions of Ontario and elsewhere in the east. However, on the prairies their numbers sharply decrease, possibly owing to a lack of suitable materials or perhaps to a lack of this cultural trait. A few have been reported in the past in the **Blue Jay** — e.g. one found near Tisdale (**Blue Jay**, 15:169), one found near Weyburn (**Blue Jay**, 16:42).

An example of a coast petroglyph is shown in figure 1. This granite boulder is about five feet in diameter and is covered with various small figures and symbols. Figure 2 shows a high plains petroglyph (see also **Blue Jay**, 15:43). Though it is larger than the

one in figure 1 it is also of granite. Close inspection shows that both bear at least one symbol in common — a five-dotted circle.

Some researchers believe that the carvings represent images seen by puberty initiates in religious ceremonies. Others theorize that the dif-



Photo by E. I. Syverud

Fig. 2 Petroglyph in Writing Rock State Park, North Dakota, in natural setting.

ferent symbols represent tribal or chieftain marks. Still others claim that the carvings are marks of tribes passing through the region — a sort of "Kilroy was here" theory. Even though there is little likelihood of our ever attaining full understanding

of petroglyphs there is the possibility of tracing the movements of tribes and cultures by a careful study of all those that remain. Therefore, the observation, reporting, recording, and above all the protection of all petroglyphs is highly desirable.

RED FOX IN GULL LAKE AREA

by Mrs. J. R. Squires, Admiral

In the March, 1962 issue of the **Blue Jay** I read the account by Terry Wedge of a Red Fox sighted in the Gull Lake area. Last August, my husband and I saw a Red Fox in the same area, approximately ten miles south of Gull Lake and a half mile west of Highway No. 37. It crossed the road in front of our car and hid in the ditch which was heavily grown over with sweet clover. When we stopped the car and backed up to watch it, the fox left its hiding place and ran to the field. My husband had seen a Red Fox (possibly the same one?) within a half mile of this place a few weeks earlier and later we spoke to another person who said he had seen one there at about that time.

In the summer of 1960 a Red Fox was killed, presumably by a car, on the Bone Creek Valley road about eight miles west and two miles south of where we saw the fox last August. It was observed by quite a few people at that time. Until reading Mr. Wedge's account I didn't realize that you wanted this information.

KNOW ANY SNAKE PITS ?

Garter snake hibernacula needed—

Dr. R. Connell of the Veterinary Science Department, University of Saskatchewan, Saskatoon, would like information regarding the location of garter snake hibernacula (dens where garter snakes collect to spend the winter) in Saskatchewan. The Veterinary Science Department is engaged in work aimed at clarifying the role of the garter snake in certain infectious diseases transmissible to livestock and man, Western Equine Encephalomyelitis in particular. Dr. Connell would appreciate hearing from any **Blue Jay** reader who knows the location of garter snake hibernacula, or who observes considerable numbers of snakes in any spot, in order to collect snakes emerging from hibernacula in the spring.

CECROPIA PUPAE NEEDED FOR RESEARCH

Saturniid pupae, such as Polyphemus and Cecropia (see **Blue Jay**, 20: 28-33), are sought by Dr. Lawrence Gilbert at the Department of Biological Sciences, Northwestern University, Evanston, Illinois. Dr. Gilbert will pay good prices to anyone collecting such pupae for him.

Notes and Letters

BARRED OWL NESTING SITES

I was glad to read in the **Blue Jay** (19:114-115) that the Barred Owl had finally been found nesting (in a black poplar stub), as I had prophesied when I was at the 1959 meeting of the A.O.U. in Regina.

We do not profess to be expert on the breeding habits of Barred Owls, but we were fortunate enough to find a nest of this species, 15 miles west of Fort William, on May 5, 1940, which contained one egg and a newly-hatched young. On April 6, 1942, we located a second nest about

100 yards from the first tree which had blown down shortly after we had found the nest. This nesting site was again occupied on April 11, 1943. Both years the first sets of eggs were collected, and the female had laid new clutches by May 18, 1942, and May 12, 1943.

Both nests were in cavities near the tops of balsam poplar stubs at elevations of 35 and 30 feet respectively. In no instance were we able to flush the sitting bird by striking the trunk of the tree with a club. In every in-

stance, however, she could be flushed immediately by rubbing a branch up and down the bole of the tree. This may be a valuable tip to anyone searching for a suspected nest of this species.—**A. E. Allin**, Fort William, Ontario.

COURTSHIP BEHAVIOUR OF YELLOW-SHAFTED FLICKERS

Last June 24th, as I was working in the kitchen of our summer home on the bank of the well-wooded Souris River at Estevan, I was drawn to the open door by some soft clucking bird sounds. The sounds came from a pair of Yellow-shafted Flickers on an unused power pole in the yard.

The male (supposedly, although I was not close enough to observe the moustache mark) was clinging to the side of the pole, facing the female who was perched on the top. They were in fairly close contact and kept stretching their necks out to each other and crossing their beaks as they emitted soft clucking sounds. They would stop for several minutes and then the male would begin the performance again. He would always begin by throwing his head back and stretching his neck up. The female would soon respond and the soft sounds and the beak crossing would continue. After ten or fifteen minutes the female suddenly took flight into the thick woods with the male in close pursuit.—**Mrs. T. A. Torgeson**, Estevan.

RESCUING A ROBIN FAMILY

Of the numerous birds that nest yearly around our farm grounds, the robins seem to pick the oddest places for their nests. I often wonder that they raise as many of their young as they do.

Last summer, a pair built on a shelf in our garage. As the car being driven into the building usually caused the bird to fly from the nest, I made a practice of leaving the car outside the garage if it was after dark when I arrived home. One night, however, returning late from a

meeting, I failed to do this, with the result that the robin was scared from the nest. It was quite a cool night and the nestlings were only about a week old. I could hear the mother bird fluttering around among some boards overhead, so I thought probably if I left the light on in the garage, she would find her way back to the nest and all would be well. However, before she did so, the young folks noticed the light on, and thinking "Grandpa" had forgotten to turn the light off, they did it for him.

Next morning, I looked in to see how things had worked out. The nestlings were alive, but a pretty cold looking little brood. All that remained of the mother bird were a few feathers on the floor where a cat had finished her off. I watched for an hour to see if by any chance the mate might take over the care of the orphans, but there was no sign of another bird in the vicinity, and things looked pretty grim for the little ones.

Some hundred yards away I knew there was another pair nesting. As a last resort, I removed the nest and small birds, and placed it on the ledge about a foot from the other nest where the mother bird was sitting on unhatched eggs. I had no idea as to whether it would work or not. Because of farm work I was unable to stay to find out just what did take place, but the young birds lived and matured, so they certainly were looked after, and what is more the eggs in the other nest hatched, and the young there also grew up. I fancy that must have been a busy pair of robins, feeding two nests full of young at the same time.—**Watson Crossley**, Grandview, Man.

FEEDING BEHAVIOUR OF HOUSE SPARROWS

In a recent issue of the **Blue Jay** House Sparrows were described picking grasshoppers from car radiators at North Battleford. Recently while reading Edwin Teale's **Journey into Summer** I came across two references to this behaviour. The first reference on page 227 describes a House Sparrow picking insects—mainly grasshoppers and yellow butterflies—from

the fronts of parked automobiles in a South Dakota town. The other references on page 276 tells that whenever the author stopped at a filling station House Sparrows were found waiting to dine on the dead grasshoppers falling from cars or brushed from radiators.—**W. S. Richards**, Saskatoon.

SOLITARY BOHEMIAN WAXWING

For two months this past winter I had a solitary Bohemian Waxwing on my crab-apple tree. I thought these birds were sociable and went about in flocks, but this individual was completely the hermit, or perhaps anti-social. He took possession of the crab-apple tree—was there from dawn to dusk. He paid no attention to the sparrows, but fiercely drove away flocks of his own kind that attempted to clean up on the frozen fruit. I first noticed him December 19 and he stayed on alone until the beginning of March. — **Mrs. D. A. Olsen**, Imperial.

Another note on the Bohemian Waxwing comes from **Mrs. A. G. MacLean**, Raymore. In the latter part of February a waxwing motionless with cold was picked up from the ground and revived in the warm house. There it became a pet, sharing with the household canary the attentions of the Morrow family who had rescued it.

NIGHTHAWK AT REST

One morning last fall I looked out of the bedroom window into the garden and saw a mottled brownish lump on the barbecue table. A plump nighthawk had chosen the table for his own private flat-top bedroom and was settled on it for a few hours sleep in the bright sunshine. I wondered if this guest could be one of the nighthawks I love to watch in the dim twilight of a summer's evening. Nothing seemed to disturb the bird as the morning wore on, and it was near noon before he awoke, looked about him and suddenly took flight. With strong, easy strokes he was soon far away. To me, our barbecue table had never looked emptier.— **Evelyn E. Wiesbrot**, Regina.

ANOTHER WEASEL STORY

Tony Martinovsky told me this weasel story a couple of days ago. A number of years ago when he lived in the Gerald district he was out with his cousin Albert looking over the horses. They noticed a commotion in a patch of brush, and investigating, found it to be a weasel attacking a rabbit, chasing the rabbit into an increasingly small circle, then quickly finishing it off in the usual weasel way.

The weasel dragged the rabbit for a number of yards, then decided this was too hard work, so changed his hold, manoeuvred the rabbit over his shoulder, and lugged him off to his den. Good evidence of the enormous strength of this small animal, for the rabbit was apparently a full-grown one, weighing several times what the weasel would.

More and more people testify as to the value of the weasel as a rat and mouse destroyer. We should strive for the complete protection of these almost priceless vermin controllers.— **E. E. Symons**, Rocanville.

ROCK HOUNDS

In the last **Blue Jay** Dora Doolittle asks about rock hounds. I have a nine-year-old pebble puppy! For five years, Bernice has collected rocks—I sleep on them, find them in pie crusts, in shoes and on book shelves, wherever I step I am certain it will not be a flat surface. We found that it was hopeless to discourage this unusual "feminine" hobby. So my husband went along with his daughter and bought books on geology. I am now very happy that there is a member in our society that is also interested in rocks as Bernie was hoping to meet someone with similar interest. — **Mary Capusten**, Prince Albert.

As one who has spent considerable time accumulating and polishing a collection of odd and coloured rocks, from wherever they can be secured, I can probably be classed among the so-called "rock hounds." Like Miss Doolittle, I think the picking up of such rock specimens as catch the eye fits right in with natural history. I have been amazed at our natural his-

tory meets to notice that if one casually mentions an interest in stones a large number of people will say "come over to the car and see the specimens I have picked up."

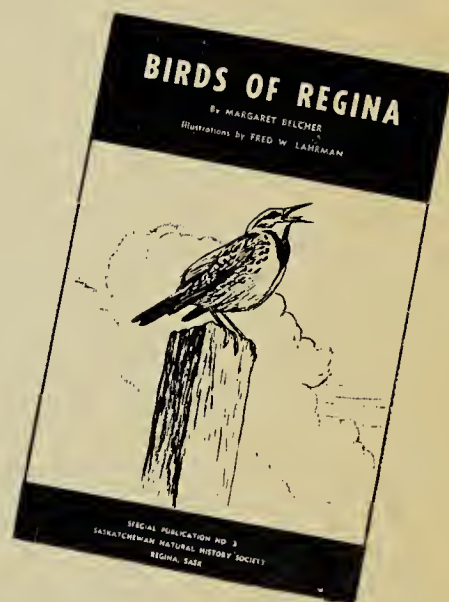
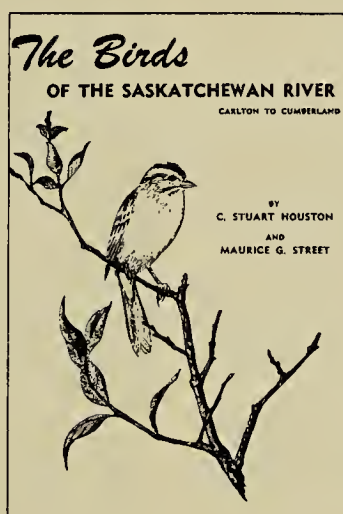
I could even suggest that this phase of natural history be recognized by our directors as part of our society activities, and that space be available in the **Blue Jay** for correspondents, with possibly a rock hound in charge of that section. If this hobby were recognized, some provision could be made to contact other rock hounds at our annual summer or fall meetings.—**Watson Crossley**, Grandview, Manitoba.

EDITOR'S NOTE: Since the Friday evening meeting at Fort Qu'Appelle includes an informal get-together, we suggest that the rock hounds bring along their choice items to show others who are interested.

NATURE SANCTUARY

I have been reading in the **Blue Jay** about saving our lands in their natural state. We live on a farm here on the Flying Creek, about 16 miles northwest of Regina. Because there are springs all along the creek it never goes dry, even in the driest years. We would like to make a little dam which would encourage birds in the way the Tregarva Slough did before it was drained. The Tregarva Slough used to be covered with thousands of ducks, and hundreds of swans, geese, cranes, etc. We would like to put in a dam to form a reservoir, and have thought of planting trees of various kinds around the edge. I am wondering if anyone could give us advice on this project, and if any agency could help share the cost and work. The reservoir would take in about 19-25 acres, and be a very quiet place.—**Kenneth Dickson**, Tregarva.

S.N.H.S. Special Publications



- No. 1. **A Guide to Saskatchewan Mammals.** By W. H. Beck. 1958. \$.50
 No. 2. **The Birds of the Saskatchewan River.** By C. S. Houston and M. G. Street. 1959. \$1.50
 No. 3. **Birds of Regina.** By Margaret Belcher. 1961. \$1.00

Forthcoming publications: watch for the **Blue Jay Index**, **Birds of the Qu'Appelle Valley**, **Birds of Lake Athabasca**.

ORDER FROM **The Blue Jay Book Shop**, Sask. Natural History Society, Saskatchewan Museum of Natural History, Regina, Sask.

ALSO AVAILABLE AT THE BLUE JAY BOOKSHOP: Selection of hastinotes, postcards, Kodachromes, handicraft, natural history guides (including Peterson's **Field Guide to the Western Birds**, rev. ed. at \$5.95 plus tax).

NATURE SANCTUARY

The Blue Jay Bookshelf

I have been reading in the Blue Jay about saving our lands in their natural state. We live on a farm here on the Flying Creek, about 16 miles northwest of Regina. Because there are springs all along the creek it is a good place to live.

THE MAMMALS OF MANITOBA. By J. Dewey Soper. Can. Field-Nat. 75:171-219, 30 figs.

We would like to have a dam which would encourage birds and mammals. The *Mammals of Manitoba* represents a summary of the mammals found in that province and in the waters of Hudson Bay along the coast of Manitoba. It gives accounts of 118 forms of 90 species, one of which is hypothetical. Of the forms discussed 78 occur also in Saskatchewan. The introductory sections include brief descriptions of the physical features and life zones of Manitoba. An outline map of the province shows the extent of each life zone, and six photographs illustrate characteristics of the zones.

Most of the text is devoted to accounts of the distribution, habitat, and average measurements of species and subspecies that occur in Manitoba. This section is illustrated by the author with eight photographs and 15 figures of ink sketches.

Mr. Soper has had wide experience in field work and the distributional information is based upon his personal field investigations in 1927 and 1934 to 1948, supplemented by records from the literature. The data are mainly from the southern half of the province, and the present paper should stimulate collection and observation in areas where little information has yet been obtained.

This reviewer would have liked to have seen a general description of each species to help the amateur visualize the mammal being discussed, and a more detailed map showing the localities mentioned in the text. However, the paper is an important contribution to the zoology of Canada and should be in the hands of all naturalists in Manitoba, and any who expect to be in Manitoba during the coming months.

Reprints of the paper, with index, are available from Canadian Wildlife Service, 150 Wellington Street, Ottawa 4, Ontario. W. Harvey Beck, Saskatoon.

anyone who notices that if one casually mentions an interest in stones a large number of people will say "come over to the car and see the specimens I have picked up."

I could even suggest that this phase of natural history be recognized by our directors as part of our society and that space be available.

WATCHERS AT THE POND. By Franklin Russell. 1961. McClelland and Stewart, Toronto.

The theme of this book is the struggle for survival in various kinds of animals living in, under, and around a pond, from its marshy border back into the trees. Included is almost every possible organism to be found in such a location, from hawks, warblers, juncos, to rabbits; foxes, muskrats—to bees, beetles, snails, frogs—and even the microscopic bits of living matter in the water. The author describes life there through all the seasons of the year, showing that survival of an animal depends on its ability to fend off living enemies, and on its ability to withstand severe changes in weather—with some luck factor too. The author gives many details of the quantities of living things produced, and the quantities destroyed. His treatment helps to remind us that survival of individuals is more or less accidental, and that "survival of the fittest through natural selection" really refers to survival of the kind or species. Bad luck or chance may take off individuals, but if a large population is destroyed by enemies or weather, we say that group had not much survival value.

A comparison can be made between this book and Rachel Carson's *The sea around us*, as the two have similar topics. Carson described the origins, positions and seasonal changes of organisms in the sea. Russell describes the lives and deaths of creatures in a pond and on its margins. Carson gave more information on their life histories; Russell tells more about the number of individuals present. This comparison is not intended to imply that Russell's book is equal in value to that of Carson, a trained naturalist whose work is scientifically accurate. Russell is a journalist; his pedigree on the back cover quotes no scientific training—and he, inside the cover, quotes no source of information. An eastern reviewer of the book, finding that the

details as he described them did not always match her experience, called it "an exciting, tense book to read—almost like a time-lapse moving picture . . . if it sharpens your own observation and stimulates you to learn more about the life of a pond and its surroundings from reliable sources it will be worth the time spent reading it."

It is not a book written for children, unless they can cope with plenty of words like "nullify," "insensibly," "elaborate", "accelerated", or "ingenious". However, the life-and-death aspect is treated impartially as well as impersonally, and thus should be less upsetting to the nerves than many animal stories in children's books.

As a guide for human watchers at the pond, this book gives many hints of where and what to watch. Under the mud in winter may be found hibernating frogs; cocoons are in curled up leaves; frozen ant colonies may be thawed out alive. Although the pond described is in an eastern forest, we on the prairies know many of the same sights, such as muskrats eating cattail roots, or birds digging insects out of trees. Those of us who have a pond near by have the same opportunity to observe changes in population as the author. The school classes visiting Wascana Marsh during two weeks in May last year were able to see thousands of leaf-cutting beetles laying eggs on the bushes. Suddenly the beetles were gone, and soon there were few eggs left to show new classes. As one who visited the marsh each week through May and June, my interest was most taken by the steady change in the appearance of the area as spring progressed into summer. Those who visit

a marsh or pond only once in a season learn only a little of what can be observed there by watching through the year.—Anne Blakeney, Regina.

SEEDS. 1961 yearbook of agriculture. Govt. Printing Office, Washington 25, D.C. 591 pp. \$2.00.

Last year, 1961, was the World Seed Year of the F.A.O. As a contribution to the organization's efforts, the U.S. Department of Agriculture produced this book. It is highly interesting and informative to farmers, naturalists and other concerned with seeds in all their different phases.

There are sections on every possible aspect of plant reproduction. For the naturalist interested in wild flowers the section on the seeds of wild flowers is very informative. So are the photos of wild flower seeds. Other sections and illustrations will be of equal interest to people of other interests. The book is well illustrated with line drawings and 48 pages of photographs, and is beautifully bound.—A. J. Hruska, Gerald.

National Collection of Nature Photographs

Professional and amateur photographers are invited to submit photographs of Canadian wild flora and fauna to be considered for inclusion in a National collection of nature photographs which will be sponsored by the Canadian Wildlife Service and the National Museum of Canada.

The first entry deadline is September 30, 1962. Information brochures and entry forms are available from the National Museum of Canada, Ottawa.

WANTED

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Junior Naturalists

Edited by **Joyce Deutscher**,* Saskatchewan Museum of Natural History.



Tiger Salamander

S.M.N.H. Photo

CONTEST — SUMMER OBSERVATIONS

- Rules:** (1) Any boy or girl 16 or under may enter. Entries will be judged according to age.
- (2) Send contest entries to Joyce Deutscher, Saskatchewan Museum of Natural History, Regina, Sask., to arrive not later than July 15. Sign your entry with your name, age and address.
- (3) Make a chart similar to the following by Brian Irving or do as Donald Buckle did and send us in a copy of some of your field notes.

This is not a contest to see who can get the longest list or the most "first seen" records. We are interested in what you note down or observe about plants and animals, their habits and habitat. Use your own ideas. You do not need to use the same kind of chart we have shown on page 94.

CONTEST WINNERS AND COMMENTS

We are very pleased with the results of the Spring Observations contest and wish to commend especially **Donald J. Buckle** for the excellent observations he sent. First prize goes to Donald and honorable mention to **Brian Irving** and to **Christopher Ernest Mickleborough** who sent in an entry similar to Brian's. We do hope that you keep up the good work and that more of you will begin keeping field note books and will begin to send in your observations to us. Any kind of notebook will do for this purpose from the kind you use in school to a diary or daily journal with each date printed in for you at the top of

the page. Regardless of the kind of note book you use it is important to mark down the date and the place of your observations. Make sketches as well for additional records if you wish. Sketches of plants you have seen and cannot identify at once are particularly useful.

Space does not permit us to publish all of Donald J. Buckle's notes. The excerpts in the following article will show you that he is interested in a variety of wild life forms ranging from the insects he has hatching in pond water in his room to the birds he sees outside the window.

* Our Junior Naturalists editor Joyce Dew is now Mrs. Joyce Deutscher.

NOTES FROM THE JOURNAL OF DONALD BUCKLE

Editor's Note: Donald Buckle of Lady Lake sent us in a copy of some of the notes he's been taking over the past year as his entry to the "Spring Observation" contest. We are printing some of these to give you an idea of the variety of observations which Donald made. We hope this will inspire others to keep similar note books.

Sat., Feb. 3, 1962

This morning (10:00 a.m.) two Blue Jays visited the feeder along with a Gray Jay. The Blue Jays reminded me of "city slickers" coming for a visit to their poorer but more resourceful country cousins the Grays. The Blue Jays, when eating, raise their heads a good distance above the suet and drive their long beaks straight down like a pile driver into it. Besides the jays several Chickadees, in two family groups, a pair of Hairy Woodpeckers, and at least one pair of Downys came to the feeder.

Tues., Feb. 13, 1962

Until an animal has been lived with for a length of time its personality remains hidden, either because of its fear or shyness, or because of the limited time spent observing it. Losing its fear it displays its personality as well as the general habits of its species.

The Chickadee is a prime example of this. At least once a day he performs a simulated bathing. He will perch on the edge of his water cup and flick his beak rapidly, splashing water all over the room, hop to his perch where he vibrates his wings rapidly, holding them extended $\frac{1}{4}$ away from his body and wipe his beak and/or the sides of his perch one or two times to remove water from his eyes or to keep down his wet face feathers. This is repeated for approximately five minutes. Preening takes place after the "bath". The bird fluffs its feathers and vibrates its wings, and after rubbing its beak on its oil gland runs it along the primary feathers of its partially extended wings.

Another interesting thing is the number and diversity of his calls. There is at least one call-note to other Chickadees, a note of happiness (?) when he is let out of his cage, an alarm note, etc., etc.

He is very inquisitive. In the evenings if he is let out of the cage he will search the floor and my desk for

bits of food scratched out of his cage during the day. His favourite hunting grounds are my shelves where he knocks over test tubes and eats dry "bugs" I saved to study, and the window ledge when the window is open. He has a knack for doing things he shouldn't. One day he jimmied open the match box of hibernating Angle-wings with his bill and ate several before I could stop him. The other day he tried to make off with a Meadow Vole's skull complete with label. Despite the fact that he could hardly lift it he reached the curtain rod and began to peck it before I could stop him.

Wed., Mar. 28, 1962

Saw a flock of about 20 Horned Larks on the way to school this morning.

Since early fall a small ($\frac{1}{4}$ ") beetle, brown in color, spotted with darker brown, lived in a pint jar of water in my room. It remains clinging to vegetation at the bottom of the jar most of the time, coming to the surface occasionally to replenish the air bubble under its abdomen. Lately it is spending more time just below the surface and today, as it remained stationary in this position for some time, I thought it might be dead. I picked it up and to my surprise it made a buzzing sound, probably with its wing covers. This sound is audible for a distance of two feet. The beetle will only buzz when severely disturbed, and then only a few times. After this no amount of poking will make it buzz.

Mon., April 2, 1962

The beetle mentioned on March 28, 1962, died on the 29th. I pinned it as No. 62. Heard several crows flying over the river; earlier today Mom saw two crows.

Tues., April 3, 1962

The weather is fairly nice today, the temp. was up to 40 degrees. I saw the first pussy willows about two

weeks ago, now catkins on the poplars are just showing.

The Chickadee is livelier than ever now. I will have to let him go soon.

Sat., April 7, 1962

The weather took a turn for the

worse today. It snowed about 4 inches last night and today it is only 25 above with a north wind blowing. Not even the slate-colored juncos,

which incidentally, are darker now than in fall, are around.

SPRING OBSERVATIONS

by Brian Irving, age 11, Kelvington

Area N.E. 22-36-12

Date	Name	Where Seen	Other Observations
Mar. 7	Skunk	along roadside	first time seen since fall
Mar. 17	Horned Lark	along roadside	picking up grain
Mar. 21	Pussy Willows	in house yard	just beginning to show
Mar. 25	House Fly	on sunny side of building	
Mar. 25	House Sparrow	in house yard	carry straw to nest in spruce
Mar. 29	Gray Partridge	along roadside	in pairs
Mar. 29	Common Crow	over road	flying
Apr. 3	Canada Geese	over buildings	flying V formation
Apr. 6	Slate-colored Junco	on doorstep	eating bread crumbs
Apr. 2	Brewer's Blackbird	in house yard	flock of 10
Apr. 9	Northern Shrike	in house yard	8 days later than last year

RED-BELLIED WOODPECKER REPORT

By Billie Pugh, 139 Lorne Ave. E., Brandon, Man.

On Sunday afternoon, January 21, 1962, Mr. Richardson, Mr. Lane, David Plews and myself went to Spence's home near the Industrial School at Brandon. There we saw a Red-bellied Woodpecker feeding at Spence's feeding station. It was the first Red-bellied Woodpecker seen by all except Mr. Richardson who had seen one years before. Other birds feeding there were chickadees, Blue Jays, nuthatches and Downy Woodpeckers.

WINTER SURVIVAL

By Bohdam Pylypec, Yellow Creek

Many mammals and birds have been starving this winter because food was scarce. Squirrels have had a

hard time finding mushrooms and nuts.

One cold winter day two squirrels came to our place to see if they could find any food. After a search they found our storage shed (where we kept meat and bread). They found open holes in the shed and started gnawing meat. My father blocked up these holes, but that didn't do any good. The squirrels gnawed another hole which we found next morning. After blocking up some holes and finding more of them, my father gave up for the squirrel gnawed about ten holes.

Then my father put the meat and bread in metal containers. Still the squirrels stayed by the shed.

After some time a weasel came and chased the squirrels out, but finding no food, it left. The squirrels came back again.

He is very inquisitive. In the evening I think the squirrels will leave when the snow is finally gone.

FEMALE GROSBEAK

By Rachel Ninowski, age 9, Kamsack

On January 15, 1962, I found a frozen female Grosbeak. It was 30° outside.

The back and breast are slate grey color. The rump and the head are golden yellow. The tail and wing feathers are black. There are two white wing bars. The tail has 12 feathers.

From the tip of the beak to the tip of the tail, the bird is $7\frac{1}{2}$ inches long. The beak is $\frac{1}{2}$ an inch wide, $\frac{1}{2}$ an inch long, and one inch and a half in circumference at its base. Its black legs are 2 inches long. There are 4 claws on each foot and each claw is $\frac{3}{8}$ of an inch long.

We see many of these birds feeding with the rose-colored Pine Grosbeaks on the Maple trees. So we think it's a female Pine Grosbeak.

PUSSY WILLOWS

By Gloria Tommila, age 10, Elma, Man.

You are such a pretty thing,
How you hug and how you cling,
To the branch so cold and bare,
Out among the frosty air.

We're all happy when you appear

For then we know spring is here,

As we walk in the crispy air.

We see these pussies everywhere.

Sunny days and singing heart,

Good-bye winter we must part

Spring is here and here it stays,

It's Easter time and holidays.

GROWING LEAVES IN WINTER

By Irene Pylpec, Yellow Creek

In February a pupil brought a popular branch to school. We put it into some water. In about a week the leaves sprouted. Some time later another pupil brought soil for the branch. Then we planted it. For some time the branch stayed in the soil and water with little sunshine. After that we put the branch on the window sill where it got more sunshine. Then it started growing better.

After a while I thought I should plant different kinds of branches. My

birch is growing about the best now. Another branch is growing quite well. I put the branch upside down in the water because when it stayed the right side up it didn't want to grow.

Of course it didn't want to grow in the water either, so I put it the right side up again. Now I'm going to keep my plants growing that way. I also will put it in some soil.

OUR EXPERIENCE AT WASKESIU

By Denis Simair, age 14, Springside

Waskesiu is a Provincial Park set aside for people to enjoy. There are thousands of cabins, away from the beach.

When we arrived at Waskesiu, we were exhausted from the four hundred mile journey so we went directly to our cabins. During the night, when my parents and I were asleep in our beds, I was dreaming that I was in a rainstorm. Terrified, I jumped from my bed, I was soaked to the skin from head to foot. It was raining and our roof had been leaking right where I was sleeping. My parents woke up from all the excitement and laughed at the sight of me. After the rain had stopped, we went and rented a modern cabin. It had electricity and running water.

At Waskesiu there are many sports such as bowling, tennis, and roller skating. The beach is tremendous in size with thousands of people on it enjoying the warm sunshine. We enjoyed our stay at Waskesiu and one of these summers we will be going there again.

OUR DEER

By Doreen Maksymchuk, age 11, Arran.

In my locality

There are many deer

They are not too frightened

And you can come quite near.

They are reddish brown

The fawns are spotted white

And you could see their green eyes

Gleaming in the night.

I think deer are friends

And should not be shot

But if they are

Not a whole lot

Club Notes

POSTER CONTEST

Mrs. Alice B. West, Convener of the Poster Contest of the Moose Jaw Natural History Society announces the following winners: Heather Donison and Michael Rhodes. Each winner was awarded one year's subscription to the **Blue Jay**.

FRINGE SOCIETIES

At the last executive meeting of the S.N.H.S. at Davidson we were requested to send in the names and addresses of various "fringe societies" interested in some aspects of

natural history. I submit the following information from Saskatoon:

Saskatoon Archaeological Society

President: Dr. W. O. Kupsch, 319 Bate Crescent, Saskatoon.

Sec.-Treas.: H. K. Cronk, 135 Seventh Street, Saskatoon.

Saskatoon Lapidary and Mineral Society

President: Dave Harrop, 1810 Louise Avenue, Saskatoon.

Secretary: Mrs. R. Drinkle, 816 32nd Street West, Saskatoon.

These societies hold regular monthly meetings during the winter.

—W. S. Richards, Saskatoon.

SASKATCHEWAN NATURAL HISTORY SOCIETY SUMMER MEETING

Fort Qu'Appelle, June 15-17

PROGRAM

FRIDAY, JUNE 15

7:00 p.m. Registration at Valley Centre. Registration fee \$1.00
No fee for children.

8:00 p.m. Program of films, followed by coffee party, in Valley Centre Recreation Hall. Note that the business meeting has been rescheduled for Saturday evening.

SATURDAY, JUNE 16

6:00 a.m. to 8:00 a.m. Early morning birding. Leader, Manley Callin.

8:00 a.m. Breakfast at Valley Centre. Note that meals you plan to take at Valley Centre must be arranged in advance at the Parks office (upon arrival).

9:00 a.m. Cars leave Valley Centre for ALL-DAY FIELD TRIP in the Qu'Appelle Valley. Lunches for the noon meal will be packed for those making arrangements in advance at the Parks office.

6:00 p.m. Supper at Valley Centre.

7:30 p.m. Business meeting. Valley Centre Recreation Hall.

SUNDAY, JUNE 17

9:00 a.m. Field trip to Echo Valley Park. An inventory will be taken of the birds and plants of the Park, by groups working with experienced leaders. This is a new park recently established by the provincial government, and our list of the flora and fauna might prove interesting to tourists.

ACCOMMODATION

While available, rooms can be reserved at Valley Centre at \$4.00 per room, regardless of number sharing (most rooms take four). Write for reservations to the Manager, Valley Centre, Fort Qu'Appelle.
Alternatives—Hotel, two motels.

MEALS

Regardless of where you are staying, register upon arrival (at the Parks office) for meals and lunches you plan to take at Valley Centre.

THE SASKATCHEWAN NATURAL HISTORY SOCIETY

OFFICERS (October, 1961, to October, 1962)

Honorary President	W. P. Thompson, University of Sask., Saskatoon.
Past President	Robert W. Nero, 713 Empress Street, Regina.
President	Ronald M. Bremner, 404 Medical Arts Building, Saskatoon.
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Second Vice-President	Doug Wade, 1351 Jubilee Avenue, Regina.
Business Manager	Frank Roy, 120 Maple Street, Saskatoon.
Treasurer	Grace Steele, 3603 Caen Avenue, Regina.
Editor	George F. Ledingham, 2335 Athol St., Regina.
Secretaries	Margaret Belcher, University of Sask., Regina Campus. Thelma Pepper, 1015 Temperance Street, Saskatoon.

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Two-year: Harvey Beck, Saskatoon; Mrs. Keith Paton, Oxbow; Bill Richards, Saskatoon; Spencer Sealey, Battleford; Mrs. F. B. Taylor, Moose Jaw.

One-year: Keith Best, Swift Current; William Brownlee, Rose Valley; Robert Folker, Saskatoon; Thomas Harper, Regina; E. E. Symons, Rocanville.

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Ron Lloyd, Meath Park; Dr. D. M. Ewart, Moose Jaw; A. Aschim, Prince Albert; Tom Gentles, Regina; Frank Roy, Saskatoon.

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BLUE JAY MAGAZINE

Editor: George F. Ledingham; Associate Editors: Robert W. Nero, Margaret Belcher, Joyce Deutscher.

NOTICE TO MEMBERS

The **Blue Jay** is sent to all members who have paid their fees. If you know of anyone who has not received his copy, please remind him to send in his renewal. If you know anyone who has renewed but has **not** received his copy, urge him to write at once to Mrs. Steele. Membership in the S.N.H.S. gives you more than a year's subscription to the magazine, it makes you a member of an active organization with special projects like the summer meeting being held June 15-17 at Fort Qu'Appelle. We hope you can join us there.

REPRINTS

Reprints of articles appearing in the **Blue Jay** are only available if the author makes special arrangements with the editor or directly with the printer, Midwest Litho, Saskatoon. Any contributor wishing a few extra copies of any particular issue of the **Blue Jay** may get them at cost if he makes his request when the **Blue Jay** goes to press, i.e. one month before the magazine is available for distribution.

MEMBERSHIPS

Anyone interested in any phase of natural history is welcomed as a member of this natural history society. The **Blue Jay** is sent to all members not in arrears for membership dues. Because of the high cost of printing the magazine is not sent out unless fees have been paid. If you receive this magazine you are a member in good standing. Memberships should be sent to the treasurer, Mrs. Grace Steele, 3603 Caen Avenue, Regina. Regular, \$2.00 per year. Junior (including schools) \$1.00.

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Prickly Pear Cactus

Photo by W. S. Richards

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